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World Oil War Embers Glow, Smolder Over Purchase of Soviet Products

NEW YORK, Aug. 1

FLOWING embers that last week forbode a possible struggle for world oil markets, seemingly had been quenched at a conference in Paris July 29 between Walter C. Teagle, president of the Standard Oil Co. of New Jersey, and Sir Henri W. A. Deterding, general managing director of the Royal Dutch Co., but later news dispatches from abroad indicate the embers are still smoldering.

The controversy arose abroad several weeks ago when it was announced that the Standard Oil Co. of New York and the Vacuum Oil Co. had contracted to buy oil products from the Soviet government for sale in Mediterranean countries and to ships that sail the Mediterranean.

This agreement was quickly branded as immoral by the Royal Dutch-Shell, defended by the Vacuum as a straightforward business transaction that might lead to negotiations for compensation for oil property seized by the Soviet government when petroleum was nationalized, and frowned on by the Standard of New Jersey. The Standard of New York was silent. Results are the lowering of petroleum prices in parts of Europe, particularly in countries not affected by the Soviet-Vacuum-Socony pact.

The controversy really had its beginning in a crude oil contract last year but was stirred up in May when British government agencies raided the quarters of the Russian trade representatives in London. Documents seized were said to be of such a nature that Great Britain severed relations. Questioned in Commons, the under secretary for foreign affairs indicated Russian-British trade might continue although the trade agreement had been cancelled.

The London Daily Mail agitated against sale of Russian oil in England. It was estimated that price cutting independents were doing 13 per cent of the petrol (gasoline) trade in the United Kingdom. A year ago they were doing only 8 per cent. They were now receiving 42 per cent of their supplies from the Soviet Naphtha Syndicate. The remaining 87 per cent of British petrol trade was divided between Shell and Anglo-American (Standard).

Baku Consolidated Oilfields, successor to four Russian oil companies whose properties had been seized in the nationalization of oil properties, issued a warning in England that persons selling Russian oil would be held responsible for dealing in goods stolen from the company since the dealers were protected no longer by the trade agreement. This threat brought some scoffing but not from the Daily Mail, the Shell and the Anglo-American.

THEN came the announcement of the S-V-S agreement. The Standard and Vacuum were to receive these concessions: 1—two years' monopoly to sell Russian oil in Egypt; 2—500,000 tons (about 3,500,000 barrels) of raw naphtha for sale in Mediterranean countries; 3—500,000 tons of fuel oil for Standard bunkering stations at Constantinople, Port Said and Colombo; 4—six years' rights to get bunker oil for Standard tankships from the Naphtha Syndicate stations at Marseilles, Genoa, Constantinople and Baku. The Soviet was to receive a $250,000 kerosene treating plant after three years which the Standard was obligated to build in Russia and the Standard and Vacuum were to be ready to lend Soviet syndicates $50,000,000 to $75,000,000.

The Royal Dutch-Shell became angered. The Standard Oil Co. was announced in press dispatches as buyer of Russian oil. This stirred the Standard of New Jersey to this statement while President Teagle hurried to Europe:

"Newspaper dispatches, undoubtedly emanating from Russian sources, report negotiations by which a quantity of Russian oil is being purchased by the Standard Oil Co. As a result the impression has been created, both in Europe and in this country, that the Standard Oil Co. of New Jersey, in the face of the present overproduction in the United States, is buying Russian oil to displace products of American origin in the European markets supplied in part by its foreign subsidiaries. The impression the Standard Oil Co. of New Jersey has any trade relationship with the Soviet Government is incorrect.

"The Soviet government seized all of the producing oil wells and refineries and assumed full proprietary rights over the private property represented by the oil industry in Russia, without any pretense of compensation. Subsequently the Soviet government tried to raise capital abroad by selling oil which it had thus confiscated. Efforts were made to open a regular market for Russian oil products with various interests, including European subsidiary companies of the Standard Oil Co. of New Jersey.

"AT THAT time the Standard Oil Co. of New Jersey made it clear that it would not enter into any negotiations with representatives of the Soviet government looking to the purchase of oil without assurances that claims of the rightful owners of the properties would be met. It took the position that if it participated in the sale of Russian oil, a part of the proceeds therefrom should be allocated to the indemnification of the former owners. As the Soviet government was unwilling to agree that private property rights should be thus recognized, negotiations terminated and have not

since been resumed with the Standard Oil Co. of New Jersey or any of its foreign subsidiaries.

"Some confusion may have resulted from the fact that there are now various separate and independent companies which either bear the Standard Oil name or are popularly characterized in that manner, and it therefore seems advisable that the position of the Standard Oil Co. of New Jersey in this Russian matter be defined as above."

Vacuum quickly resented the implication of immorality in buying Russian oil, and that it showed preference for Russian over American oil. The antipathy of Chairman Edward Prizer to the confiscation of private property without due compensation by the Soviet government, is well known in the oil industry. His views have been published in NATIONAL PETROLEUM NEWS. But there evidently is hope for compensation. Said G. P. Whaley, president of Vacuum, to the press:

"RECENT newspaper articles in which mention is made of purchases of Russian oils by the Vacuum Oil Co., permit of misleading inferences. Since the interests and problems of the different oil companies are not identical, it is understandable that there should be a divergence of interest and a consequent difference in judgment as to individual policy in connection with trade with Russia, but that these differences should engender any ill will is inconceivable. So far as the Vacuum Oil Co. is concerned, such an inference is absolutely without basis.

"There are those who hold it unrighteous to buy petroleum from Russia on the theory that to do so would be to purchase goods wrongfully confiscated from Russian subjects by the present governing power. If that view should generally prevail, then Russia could export nothing, as not only petroleum but other industries in Russia were nationalized. Is it more unrighteous to buy from Russia than to sell to it? Considerable purchases are made by Russia in the United States of cotton and other products.

"The Vacuum Oil Co. believes that trade contacts with Russia will make for wholesome reconstruction, and, further, that it is only common sense to recognize that Russia is the economic source of supply for certain markets. An opportunity given to Russia to dispose of some of its surplus in its natural markets will avoid such surplus being forced into competition with American products in markets where transportation costs are in favor of the United States.

"The Vacuum Oil Co. has believed it good policy to draw supplies from the most economic source, giving preference at all times to American supplies. In accordance with this policy purchases from Russia will continue so long as supplies are available on proper terms and of proper quality, for those markets where Russia is undisputably the natural and economic source. Prior to the availability of Russian products for these markets supplies were drawn from other sources in the Near East, such as Rumania and Galicia, but not from America, because transportation costs made American oils prohibitive.

"The Vacuum Oil Co., for a number of years prior to the Russian revolution, was doing an extensive refining and marketing business in Russia, involving an investment of many millions of dollars. As a consequence, we were substantially affected by the nationalization of the petroleum industry. We believe that with the sole exception of the Standard Oil Co. of New York, which owned some tank storage properties in Russia, the Vacuum Oil Co., at the time of the nationalization of industry by the Soviet government, was the only American oil interest having vested ownership directly or indirectly in the Russian petroleum industry. It is therefore obvious that we are directly interested in the matter of compensation. We expect in due course of time to negotiate for compensation covering the large values that were taken over at that time, and to make satisfactory recovery, but this can be in time best adjusted without involving the question of either buying from or selling to Russia."

IN LONDON, Sir Henri is quoted as saying, "The Standard Oil Co. of New York and Vacuum Oil Co. purchased Russian oils knowing that these products were urgently wanted in Russia; moreover, that they were stolen." He charged that purchase of Russian oil was inimical to the best interests of civilization.

In New York, Saul G. Bron, representative of the Naphtha Syndicate, issued a statement saying more petroleum products were being produced and consumed in Russia and that the surplus, which made up the oil sold the Standard of New York and the Vacuum, was becoming larger yearly. Production in the last year had been 10,461,000 tons, he said. Five years ago when Russian production was 5,000,000 tons, the Royal Dutch-Shell negotiated to buy 250,000 tons, he charged.

In London six weeks ago Viscount Bearsted, chairman of the Shell Transport & Trading Co., told his stockholders, "It is obvious that it (Russian oil) is being sold as cheaply as possible, and they are able to do so by reason of the fact that they have stolen it and have not paid for it."

IN PARIS last Friday, President Teagle and Sir Henri met. Talk of world oil war was deprecated, said a copyrighted dispatch to the New York Times. What was said at the conference was not revealed. It was said, however, that the Standard of New York as an Independent company, had a right to buy oil where it saw fit. Mr. Teagle then left for Berlin where the price of gasoline fell the next day 2 pfennigs a liter, a little less than 2 cents an American gallon. Sir Henri returned to London.

Herbert L. Pratt, president of the Standard of New York, sailed yesterday for Europe without breaking the silence he has maintained about the Russian oil situation. He was bound for a vacation on a grouse moor he rented in Scotland, it was announced, but he might have conversations later in London.

Dispatches from Amsterdam today said the case is still serious; those from London said an oil war is not feared.

Wooster Crude Cut 20c

FINDLAY, O., Aug. 2.—On Aug. 2 Ohio Oil Co. reduced price of Wooster crude 20 cents per barrel, to $1.57 per barrel at the well. Last previous change was a 13-cent reduction on March 14.

Index to Coming Meetings

Wisconsin Independent Oil Jobbers Association, Plankinton Hotel, Milwaukee, Wis., Aug. 10.

Symposium between Industrial & Petroleum Division and Automotive Engineers of the American Chemical Society, on motor fuels, Detroit, Mich., Sept. 6.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 14, 15, 16.

Ohio Petroleum Marketers Association, Miami Hotel, Dayton, O., Sept. 22, 23.

Fourth International Petroleum Exposition and Congress, Tulsa, Sept. 24 to Oct. 1.

Petroleum Section, National Safety Council, Hotel Stevens, Chicago, Sept. 27 to 30.

Big Four State Jobbers, Kansas City, Mo., Oct. 4, 5, 6.

Petroleum Division, A. I. M. E., Texas Hotel, Fort Worth, Tex., Oct. 19, 20.

American Oil Men's Association, West Baden Springs Hotel, West Baden, Ind., Nov. 2, 3, 4.

American Petroleum Institute, Hotel Stevens, Chicago, Dec. 6, 7, 8.

Voluntary Proration Is Latest Plan To Curb Seminole

By A. F. Hinton
N. P. N. STAFF WRITER

TULSA, Aug. 1

THE latest plan devised to curb Seminole production is voluntary agreement by operators in the district to prorate output by leases so that total yield from the entire district shall not exceed 450,000 barrels daily.

This plan last week had reached the stage where all except five of 40-odd operators had agreed to it, and a meeting was to be held today at which it was hoped these 5 would signify their willingness to co-operate. It was said by Ray M. Collins, Seminole umpire, who is father of the proration plan that none of the companies was opposed to the plan, but that they were unable to sign the agreement for lack of authority or other reasons.

If this plan becomes a reality and the situation is thus brought under control by voluntary action of the producers, it will mean that further appeals to the state corporation commission will be unnecessary. It has no effect, however, on the Commission's order of July 21, which forbade shooting and drilling in of outside wells, but which made no effort to hold back production from present fields. This order is in effect only until Aug. 5, when another hearing before the Commission was scheduled. If the proration plan is perfected, it is possible that this hearing will not be held, the temporary order will be allowed to lapse, and the Commission will withdraw from the matter entirely.

UNDER the proration plan as submitted to the operators by a committee of five who had been appointed to prepare a definite scheme, the field's production will be held down to a maximum of 450,000 barrels a day, and production from each property will have to be pinched in in the same ratio as that of 450,000 barrels to the field's present production. Taking today's figure of 527,000 barrels actual output, which is the highest ever attained by the Seminole district, a proration to 450,000 barrels would mean a cut of 14.5 per cent in production from each lease. A property now making 10,000 barrels, for instance, will not be allowed to produce more than 8,550 barrels under that ratio. However, proration for the first 10 days is to be based on production as of July 29, which was 511,345 barrels, or a reduction of about 12 per cent.

Four More Sign
By Telegraph

TULSA, Aug. 2.—All companies operating in the Seminole district except one have signed the proration agreement to limit production there to 450,000 barrels per day. An official of the company which has not yet signed will be in Tulsa tomorrow to confer with Umpire Ray Collins. It is expected the cut in production, in accordance with the proration agreement, will be made Aug. 4. Final work is now being done on the allotment of production by companies and leases.

The men who worked out the proration plan after 23 of the principal producers in the district had expressed themselves in favor of proration as a means of controlling production, were J. J. Conry, Carter Oil Co.; H. N. Cole, Pure Oil Co.; E. H. Moore, Independent Oil & Gas Co.; J. S. Sidwell, Prairie Oil & Gas Co.; and R. F. MacArthur, Barnsdall Oil Co. Appointed last Tuesday, this committee put in several days preparing a workable plan, and submitted it July 29 to a general meeting of operators which lasted all day.

It was at this meeting that approval of all except five operators was secured for the proposal. The plan as submitted set no definite time for duration of the proration period, but it was not accepted in this form by the operators. As finally adopted by those who voted for it, it is to run 60 days, with the added provision that it can be ended in 30 days if a majority of the producers then believe that the necessity for it no longer exists.

UMPIRE COLLINS is now working out a table of permitted production for each property in the field, and he hopes to have it in the hands of the operators in time for actual proration to begin Thursday, Aug. 4. It is planned to have all operators advised as to their allowable production by Wednesday, with notification to the effect that on the next day they will be expected to start cutting production down to the required figure.

Active supervision of the proration will be in the hands of Umpire Collins, and he is placed in full control, with all gaugers reporting to him as they did in the first Seminole proration last fall. The operators, however, appointed a committee to work with Mr. Collins, and to help him untangle the many knotty problems that undoubtedly will arise. This committee, to which any operator who believes he is not being treated fairly may appeal from the decision of the Umpire, consists, in addition to Ray M. Collins, of R. B. Pringle, Independent Oil & Gas Co.; J. J. Conry, Carter Oil Co.; H. N. Cole, Pure Oil Co.; and J. S. Sidwell, Prairie Oil & Gas Co. This committee is meeting today, and probably will be in daily session until the plan starts working smoothly.

In addition to the proration plan, a majority of the operators also are in favor of the zoning of areas around wildcat wells, as suggested by Umpire Collins at the Oklahoma City hearing before the Corporation Commission. This scheme places certain designated sections around wildcat wells under control of the umpire, specifies that all wells be pinched in to 100 barrels daily when drilled in, and prohibits shooting altogether.

The proration plan, as submitted yesterday to the operators, was worded in part substantially as follows:

"Each lease shall be regarded as a unit for the curtailment of production, and each lease shall be allowed to produce the same proportion of the allowable production of 450,000 barrels a day as the potential production of each lease bears to the total potential production of the entire field. This potential production is to be determined by Ray M. Collins, acting under the direction, and with the advice, of a committee of five practical Seminole operators.

"For the purpose of determining the potential production of leases, all leases in the Seminole and Searight pools shall be classified as 'old properties' and all leases in the Bowlegs and Earlsboro fields shall be classified as 'new properties.' Initially, the potential daily production of each lease, whether falling in one or the other of these two classes, shall be determined in the following manner:

"THE umpire, from scouting reports available to him, shall ascertain the average production of each lease for the 10 days' period ending July 29, and the figure so found shall represent the potential production of the lease for the first period that the plan is put into operation. New wells, coming in after July 29, whether on

old or new properties, shall be dealt with as follows:

"After the new well shall have been producing for three days, the third day's production thereof shall be regarded as the potential production of the particular well for the time being, and the amount thereof shall be added to the particular production of the particular lease previously ascertained, and the total shall constitute the potential production of the lease for the purpose of this plan."

THIS is going to be a difficult provision to carry out, for it will be hard to say what is the third day of production. Many wells start producing when first drilled into the Wilcox sand pay zone, but are not completed for some time thereafter, deepening operations often resulting in large production increases. Also, many wells, especially at Bowlegs, do not flow naturally, or flow only a short time, and, on the third day after getting the sand, may be producing nothing, whereas if they are put on air, may make several thousand barrels a day. In such cases, it is probable the umpire will allow sufficient time for the well to be placed on air, and then use its third day production after application of air in calculating its potential output.

The plan goes on: "With reference to all old properties covered hereby, the potential production figures attributed thereto shall be applied for periods of 10 days. At the end of each 10-day interval, the potential production of all such old properties shall be readjusted upon the basis of the production decline curve applicable to properties in the Seminole and Searight pools.

"In relation to new properties, the potential production ascertained by the Umpire shall apply from day to day only, such potential production to be adjusted each day upon the basis of the production decline curve found to apply either to the Earlsboro or the Bowlegs pool, as the case may be, depending upon location of the particular lease in one or the other of said pools.

"Appreciating the difficulty of adjusting the potential production of leases under the plan, any operator feeling himself aggrieved by any ruling of the Umpire in this regard, may appeal to the committee of five, which committee shall have authority either to affirm or modify the ruling of the Umpire, according to the equities of the particular case.

"Not later than Aug. 1 each operator affected by the agreement shall indicate to the Umpire the name and address of his representative in the field, to whom the Umpire shall deliver any order made by him hereunder, including the Umpire's statement of the amount of production which the operator may run from each of his leases for the next succeeding proration interval, whether that be 10 days or one day as hereinbefore provided."

After recommending that zones be established around certain wildcat wells where new pools may develop, as outlined in NATIONAL PETROLEUM NEWS, issue of July 27, pages 18 and 19, the committee submitted a list of 36 drilling wells in the area, any one of which might open up a new producing area when drilled in, and recommended that zones be established around these, as well as around the six wells already zoned, with similar agreements in effect as to pinching in production and banning shooting.

As to shooting wells in the four fields of the district, the plan said: "During the period this plan remains in force, no well shall be shot in the Bowlegs, Earlsboro, Seminole or Searight pools, unless prior thereto the offset has been shot, and even then the operator desiring to shoot his well shall secure consent of the Umpire." It goes on to say that dissatisfied operators in this regard may apply to the committee of five for review of the Umpire's decisions.

N. V. V. Franchot, Olean, N. Y., producer and banker, who has served 52 years in the oil industry, at the unveiling of the monument at the Seneca Oil Spring near Cuba, N. Y., July 23.

The committee also recommended that, if production should be found in the Wilcox sand in the Pearson Switch pool, township 7 north, range 4 east, a new zone shall be established for that pool, applicable only to Wilcox sand production, and handled similarly to the other recommended zones. So far, production in the Pearson Switch pool is all from the Hunton lime. At a recent date, the pool had 29 wells producing 6,000 barrels a day, with 28 drilling.

On properties where production is declining, and where few new wells are coming in to complicate matters, it should be comparatively easy to determine potential production as defined by the plan. Inasmuch as the Seminole pool production is declining at the rate of about 6 per cent a week, it is probable that most properties there will be producing about 90 per cent of their potential at the end of each 10-day period. That pool's production was 85,196 barrels July 29, the date named in the plan as the starting point for production calculations. Under the proration to 450,000 barrels for the district, which would mean a 12 per cent reduction on that date, Seminole proper would be cut to 74,972 barrels, or a reduction of 10,224 barrels. At the end of the 10-day period, natural decline would have placed its potential production at 77,894 barrels, figuring a decline of 5,000 barrels a week, and this would be only 2,900 barrels greater than the amount allowed under proration. It would be only 3.8 per cent reduced, instead of the 12 per cent reduction it started out with.

AT BOWLEGS, and especially at Earlsboro, however, it is not going to be nearly so simple to arrive at a satisfactory potential production figure. In these fields, production is increasing, new wells are being added constantly, and shooting is being generally resorted to to increase individual well production. The Umpire states that where wells are flowed or produced at maximum when drilled in, in order to arrive at the "third day" output, as set forth in the plan, this excess production for those three days will have to be "paid back" by excess pinching in after the well's potential production has been determined.

It is easy to see that Ray M. Collins is going to be about the busiest umpire in any league and that he is going to have many difficult decisions to make, both at the plate and on the bases.

Detroit Oil Man Plans Globe Flight To Further Aviation

Edward F. Schlee, president, Wayco Oil Corp., Detroit, on the right, planning the route for his 20,000-mile around-the-world flight and his pilot, Billy Brock. The flight is to begin about Aug. 11 and Mr. Schlee hopes to complete it in less than 28 days

Staff Special
DETROIT, Aug. 1

EDWARD F. SCHLEE, the Detroit oil man who won the recent National Air Tour, flew to Washington this afternoon to work out with the Navy Department his transoceanic route in an around-the-world flight attempt he expects to begin Aug. 11. He will go to New York to have installed an earth inductor compass and will return to Detroit probably Thursday to make final preparations for his hop off.

Mr. Schlee, who is president of the Wayco Oil Corp., hoped to lower the globe encircling record of 28 days but has been forced to lengthen his route because gasoline and oil he sent to Moscow, where he intended to alight before crossing Siberia for Japan, was seized by the Soviet agents. Mr. Schlee announced today that he would go via Turkey, India and the Philippines instead of from England to Russia and thence eastward to Japan.

Mr. Schlee, who also is president of the Wayco Fuel Oil Co., and Wayco Air Service, Inc., expects to make the trip entirely by plane. It is said that this trip, if successful, will be the first around-the-world flight. Other flyers have almost encircled the world by plane but have used other means of transportation for a part of the trip.

Mr. Schlee, whose company is distributor in Detroit for Shell gasoline and oils and Valvoline motor oils, has been interested in aviation since the war. He is enthusiastic over the future of commercial aviation and this enthusiasm led him to decide on a world flight after he won the National Air Tour.

He was among the first business men to buy an airplane for business and private use and he has saved much time in making trips to St. Louis, Chicago, Washington, New York and other cities. His flying hours have accumulated rapidly and are well in excess of hours of other pilots of the business man class, it is said.

RECENTLY, he purchased his fourth plane—the first Stinson-Detroiter manufactured and winner of the air tour. He entered and flew in by 2,000 points over the second plane. It was entered as "Miss Way-Co" and it took the lead, in points, over the other 23 planes in the tour on the first day and was in the lead until the finish.

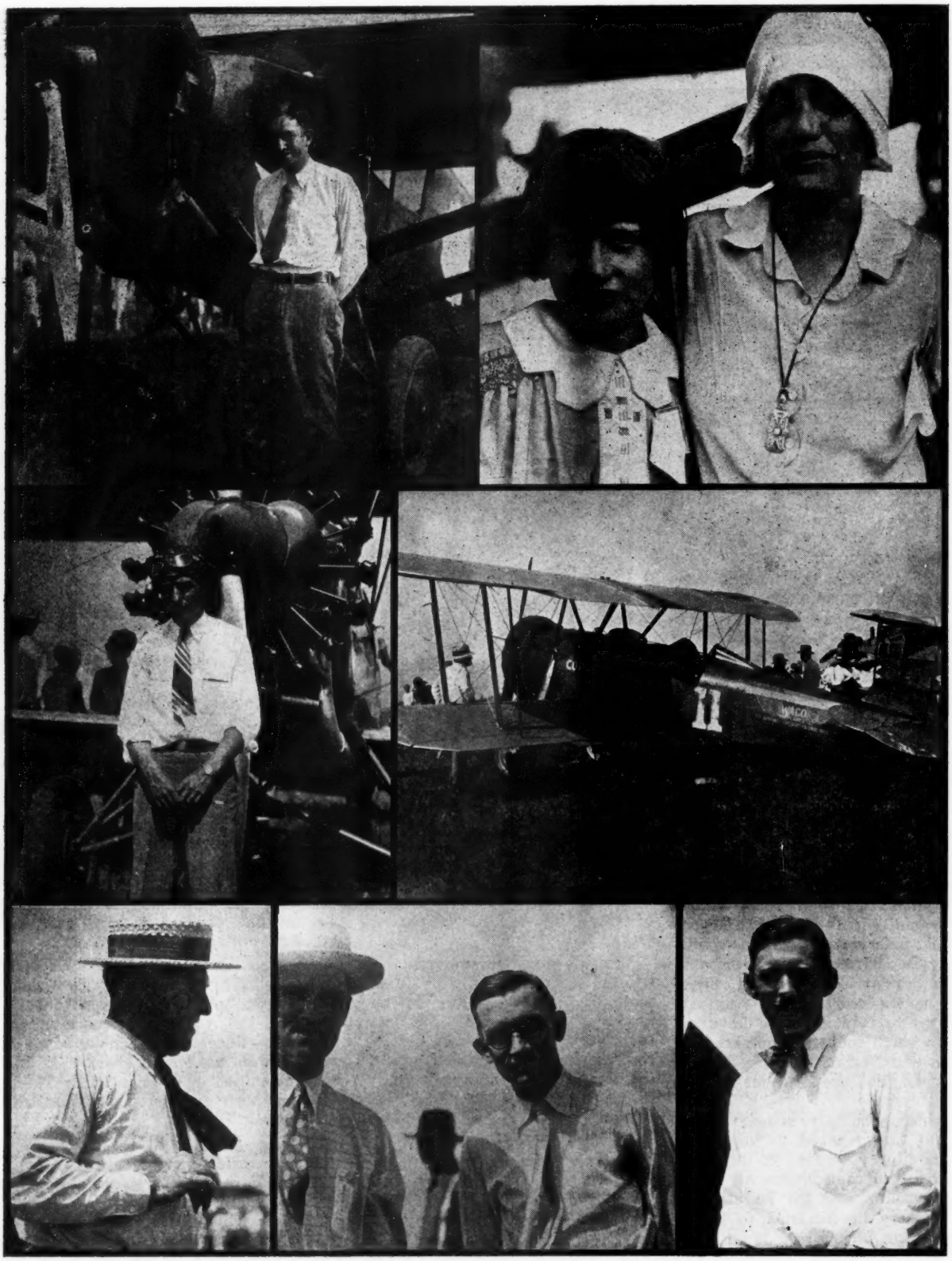
The winning plane was warmly welcomed in each city on the tour especially for the reason that it carried the youngest passenger on the tour—Rose Marie Schlee, 9 years old, as well as Mrs. Schlee. Both made the entire 4,200-mile trip. The plane has been rechristened "The Pride of Detroit."

Mr. Schlee will be accompanied on the world girdling attempt by Billy Brock, a pilot who has flown with him many thousands of miles. Their plane will be equipped with the latest known improvements to aeronautics but will be stripped, like a race horse, of every possible bit of weight. A maximum of 500 gallons of gasoline can be carried, with a regular cargo of about 380 gallons.

Messrs. Schlee and Brock are being assisted in their plans by both the Shell and the Valvoline organizations,

(*Continued on Page* 24)

Oil Industry Greets Ford National R



N. P. N. Staff Photos

At top, left—Eddie Stinson, veteran air pilot before his Stinson-Detroiter monoplane "Miss Wayco" which won the tour. This plane was owned by the Wayco Air Service, Inc., subsidiary of the Wayco Oil Co., Detroit. At right—Two of the seven passengers on the "Miss Wayco"; Rosemarye Jane Schlee, 10 years old, the youngest passenger in the air tour, and her mother Mrs. Edward F. Schlee, wife of the president of the Wayco Oil Corp.

Center, left—Billy Parker, research department, Phillips Petroleum Co., and the new Phillips plane which is being used largely for experimental work on gasoline. Billy flew to Tulsa to greet the other pilots. Right—Winner of fourth place, the biplane entered by the Correct Measure Pump Co., Rochester, Pa.

Bottom left—W. B. Hassett, president, Imperial Refining Co., a recent convert to aviation. Center—Hon. Rollin Stone, clean shaven and wearing the badge of National Air Tour official, and A. K. Longren, veteran aircraft designer and superintendent of the Mid-Continent Aircraft Co. Tulsa.

Reliability Flyers at Tulsa Airport

N. P. N. Staff Photos

At top, left—The Wayco plane taking off at the Tulsa airport. Right—The official plane of the National Air Tour, a U. S. Navy tri-motored monoplane of the Stout all-metal type. When this picture was taken it was preparing for the hop-off to Wichita, Kans., the next stop on the reliability flight.

Center, left—G. M. Piggott, land department, Rozana Petroleum Corp., who lately has been making nearly all his business trips by airplane. Center—Jack Huff, the pilot with the Lindbergh smile, who will pilot the plane Ed. Rollestone, Bristow, Okla., recently bought. The plane is to be delivered shortly. Left—Wilbur T. Funk, vice-president, Carter Oil Co., who qualifies as a flyer because of an air trip from London to Paris last summer.

Bottom, left—Duncan A. McIntyre, veteran aviator, and proprietor of the McIntyre airport, Tulsa, which the National Air Tour flyers used. Left—Tom Galey, Independent operator of Independent, Kans., Leo Ranney, Ranney Oil Mining Co., and L. E. Smith, National Petroleum News—all aviation fans.

(*Continued from Page* 21)

who are arranging to refuel and lubricate the plane along its route. An emergency engine will be sent to Tokio and probably others to other points but the fliers hope to complete the trip, which will total between 19,000 and 20,000 miles, with the original Wright-Whirlwind motor.

They plan to take off from Detroit, Aug. 11, the day Charles A. Lindbergh will visit Detroit, where his mother lives. They will fly first to Harbor Grace, Newfoundland, where a field is now being prepared for their take-off across the Atlantic, to Croyden, England, near London.

This line of flight will add considerably to the mileage but will lessen the precision essential to locating the Midways which are small and, as the name indicates, in mid-ocean.

Thence they will fly to Berlin, then to Constantinople, to Calcutta, to Manila and possibly on to Tokio. It is planned to fly southeasterly from Tokio over a string of islands to the Midway islands and on to Honolulu.

"Our trip is not essentially an attempt against time," Mr. Schlee said. "We hope, with the breaks, to return to Detroit in considerably less time than the present around-the-world trip of 28 days but our flight is more to prove the dependability and reliability of the plane for long distance travel, under all sorts of circumstances and conditions, and under a pre-arranged schedule."

The course of the flight may be altered at the conference with the Navy Department and Tokio may be eliminated from the route because of the necessity to take the southern route across India on account of the action of the Russian government.

Gasoline Stocks Cut 5,000,000 Barrels by June Demand

By Telegraph

WASHINGTON, Aug. 2

GASOLINE consumption in June reduced total stocks in the country to 43,768,000 barrels at the end of the month, 5,000,000 barrels less than at the end of May. At the end of June, 1926, total gasoline stocks in the country were about 41,000,000 barrels. Figures are from the Bureau of Mines monthly report, released today.

This reduction in stocks in June was brought about in spite of an output nearly 40,000 barrels a day in excess of May. Total output in June was 26,616,000 barrels, a daily average of 887,200 barrels, as compared with 848,000 barrels in May. On this basis gasoline shipments from refineries in June were over 31,000,000 barrels, probably a record for all time based on daily average. Gasoline shipments and exports in June, 1926, were not quite 27,000,000 barrels.

Crude stocks east of the Rockies increased 8,500,000 barrels in June to 315,702,000 barrels, a little stronger than the May rate of increase. Crude stocks in California, 117,414,000 barrels, showed little change over the month.

Crude output in June this year, 74,538,000 barrels, (2,485,000 daily average) while less than the total of 77,264,000 in May, because of June being a 30-day month was 25,000 barrels daily average over May's daily average output of 2,460,000 barrels.

Kerosene stocks showed little change, but production in June was 143,600 barrels daily average, against 150,419 barrels in May.

Gas and fuel oil stocks showed only moderate changes from May. Output in June was 1,056,400 barrels daily average, as compared with 1,080,611 barrels in May.

Lubricant stocks showed a decrease of 383,000 barrels to 7,628,000 barrels at the end of June. Production increased from 84,677 barrels daily average to 85,700 barrels.

Gulf and Humble Extend West Texas Laterals

HOUSTON, July 30.—Extensions of west Texas pipeline systems were indicated this week, when the Gulf Pipe Line Co. began surveying for an 8-inch carrier south from McElroy ranch production, Crane county, to the Yates field in eastern Pecos county, a distance of about 35 miles; and Humble Pipe Line Co. began surveying for an 8-inch 54 mile line that would connect the Hendrick ranch pool, Winkler county, with its gathering system in Crane and Upton counties.

Both the Humble and Gulf have trunk systems leading out of the west Texas region and are increasing these facilities in line with announcements made in the last two or three months. Present surveys for extensions amount to work preliminary to building of laterals connecting unserved areas with trunk systems.

Gulf Production Co. has now completed building of two 80,000 barrel steel storage tanks in the Hendricks ranch field; and the Humble will erect six additional 55,000 barrel tanks at its Kemper tank farm in southwestern Reagan county.

Humble is still prorating crude in the University (Church & Fields) pool, northeastern Crane county, taking 10,000 barrels daily under its contract with the Simms-Atlantic partnership; 15,000 barrels from Prairie Oil & Gas Co.; 5,000 barrels from the Eastland Oil Co., & Collett; 18 barrels from the Church & Fields property; 1000 barrels from Church & Weekly; 2,000 barrels from Cromwell & Pickwell; and 6000 barrels from Humble's own leases.

Southern Pipeline Co., sister corporation to Southern Crude Oil Purchasing Co., of Pan-American group, is handling 4,500 barrels from Tidal Oil Co.; 500 barrels from Independent Oil & Gas Co., and 125 barrels from The Texas Co.

Gulf Production Co., Magnolia Petroleum Co., and Landreth Production Co., continue to handle their own crude; the two last mentioned running their production to field storage.

Production Extended in Pecos County

HOUSTON, August 1.—The week just ended was marked by significant developments in three widely separated areas of the general west Texas territory. Yates pool production in eastern Pecos county was extended three quarters of a mile northwest when the California Co. completed its No. 1 test in the southwest corner of G. C. & S. F. section 34, making 200 barrels an hour at 1,023 feet. The flow increased later, but the well was pinched to 65 barrels an hour. Fifteen miles northwest of Crane county production in the University pool an important gas showing has been picked up by Gulf Production Co. in its No. 2 Waddell test.

The gas flow was found 10 feet below the top of the big lime at 3,098 feet, or slightly higher, structurally than some of the University pool wells. The test is in the northeast corner of section 10, block B-25, almost in the center of a solid block of 55 sections of Gulf leasehold a mile and a half north of earlier Hendricks ranch production in Winkler county, section 44, block 26.

Southern Crude Oil Purchasing Co. drilled in its No. 1-A-1 Hendricks for 43 barrels an hour at 2,929 feet. The well is one of four, figuring in requirements whereby Southern Crude originally acquired the operating half interest in acreage of Westbrook et al who drilled the field discovery.

NEW YORK, July 30.—The American Society for Testing Materials will be represented at the International Congress for Testing Materials to be held at Amsterdam, Holland Sept. 12 to 17, 1927. T. G. Delbridge, Supervisor of Process division of the Atlantic Refining Co. has been appointed on the committee.

Greater Knowledge Offers Refiners Opportunity to Progress

By P. M. Miskell
President Western Petroleum Refiners Assoc.

P. M. Miskell, general manager of the Empire Refineries, Inc., Tulsa, and president of the Western Petroleum Refiners Assoc., has written the first of a series of articles dealing with problems of the refiner, which are to appear in the Bulletin of the association. Mr. Miskell's article appears under date of Aug. 1 and bears the title, "The Survival of the Fittest." It is republished here in full.

IN THIS country we have long elected to base national, personal, and commercial existence on the theory that equal privileges and competitive independence are essential to real success as well as conditions that must prevail where the inalienable rights of all include such factors as life, liberty and the pursuit of happiness.

Observance of these rights, however, fulfills a two-fold purpose. It discourages the strong from preying on the weak, just as it discourages the weak from hampering the progress of the strong. As the only possible result under such a code is the production of a higher level of competence, it is not remarkable that our nation, our citizens, and our business enterprises now command greater respect than in the past, nor that "Survival of the Fittest" assumes a meaning far removed from the old idea that "Might Makes Right" and that progress is only possible through "War to the Knife, and the Knife to the Hilt."

What is best is not always obvious nor immediately attainable, hence, without change in the great basic principles under which they operate, the nation contracts new laws, persons entertain new thoughts, and business makes new discoveries.

"E PLURIBUS UNUM" fairly reeks with the spirit of cooperation, yet it was but a few months ago that Judge Gary made this statement: "Everyone present will remember the days when the steelmasters of this country were engaged in industrial war; when the hand of the steelmaker was raised against his brother; when, practically, in the steel business, might made right; when the Golden Rule was subordinated to the supposed pecuniary, if temporary, success of might and strength; when jealousy, discord and brutal antagonism prevailed, and all this to the ultimate loss of all who were engaged in the strife.

"Just as well do we remember when the unfortunate results of contest brought adversity and poverty. And with pleasure and satisfaction do we recall the awakening of our minds and hearts and souls, which exposed to our consciences the realization that acquaintances in our lines of business endeavor were in truth possessed of the same sensibilities as ourselves and were willing to try the experiment of treating our competitors as friends and companions."

It was also not so very long ago that Kent Cooper, general manager of the Associated Press, remarked that "America's increased demand for business news has been one of the outstanding facts of the post-war period."

Statements such as those we have quoted illustrate the tendency of modern business. A man's business is no longer regarded as "his own business." It has been found that the general welfare of all requires that each enterprise be conducted in such a manner that it contributes to the common cause, and that the judgment used in the proper control of individual actions must depend on actual knowledge of conditions. The life of any industry, therefore, is a continual race between catastrophe and education, and the continual cry is for additional facts to point the way.

THE refining industry, like other lines of endeavor, has found that facts are the least developed of our natural resources. It was only in 1917 that monthly data regarding stocks and output were made available by the Bureau of Mines, while as far down as the summer of 1923, when the cry of the Mid-Continent refiner was "If we had only known," articles on economic principles, or analyses of the government reports, were novelties.

One has only to run through the issues of the trade journals from year to year to realize that knowledge necessary to successful co-operation, or unity of action in response to the necessities of demand, is a comparatively recent acquisition that has been forced on the industry by recurring disaster and in the face of opposition from the industry itself.

Possibly this opposition was not unnatural. There has always been considerable nonsense about economics in the oil industry—not in economics, but about economics. When the theory that self-preservation and observance of the rights of others was first recognized as a correct principle of business administration by the refining industry, knowledge of conditions became an imperative need. In consequence of such a situation units of the industry were besieged by the questionnaire, bombarded with figures, flooded with bulletins, and buried under an avalanche of articles dealing with the economics of their business.

THE refiner in search of facts was confronted with a multitude of fancies and loosely-constructed conclusions, amply illustrated by complicated charts and tables, while often this mass of data dealt in terms with which he was unfamiliar and apparently had but slight connection with the problems he wished to solve. It is not remarkable, therefore, that some should question the wisdom of such research, that we occasionally encounter those who claim to be 100 per cent anti-statistical, nor that others should assume the attitude of "what's the use" and either maintain, or revert, to the hit or miss policies that occasionally seemed adequate when competition was less intricate and when the supply of gasoline required a constant increase in the refining capacity of the country.

However, some few truths, and these the very essence of business economics, have successfully maintained themselves. We doubt if any refiner can conscientiously say that in his opinion there are no economic laws that affect his business, nor that the working of these laws is not observable from the facts at hand. For example, who, in the face of the many disastrous experiences of the past, would ever question that overproduction must take its toll from value?

A sudden storm will cause telephone calls in New York City to jump 100,000 above normal in 60 minutes. The telephone company capitalizes this knowledge of cause and effect and secures economies in operation by the alteration of facilities to meet unusual requirements.

The storm, not the flashing lights

of the switchboard, is the signal that enables the executive to maintain service at its normal level. Likewise, in commercial enterprises, a reduction in profit is sufficient indication of some new development, just as overproduction instantly suggests a price decline.

Occasionally, refiners seem willing to ignore their past experiences and cast economic principles to the winds. They may still believe that prosperity rests with stability, that stability is only possible through voluntary co-operation, and that voluntary co-operation should be based on knowledge of conditions and directed by a mutual mental accord as to the correct procedure, however, their real operations are often conducted in channels they would publicly condemn.

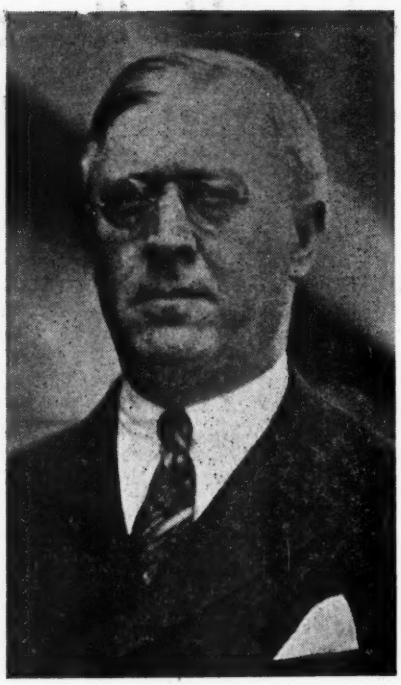
SITUATIONS of this nature are manifest in the abandonment of caution just when extreme caution is most advisable. When there is an over-supply of crude or when refiners find competition on the ascendancy are periods when the industry is most apt to falter. These are the periods when crude runs increase, when supply exceeds demand, when suspicion and price recessions are the order of the day, and when "dog eat dog" under a thin veneer of "expansion" or "maintenance of the crude demand" masquerades as "Survival of the Fittest."

The legitimate growth of the units of any industry is limited only by such factors as opportunity, price, quality, service, and the enactments that bar monopoly. Fortunately this is so, for business would present a dreary field for human effort if real efficiency, and honest ambition, were unrewarded.

Legitimate growth, however, is never a matter of mere desire, for when expansion has no more substantial basis, productive capacity soon outgrows demand for products and cut-throat competition tends to destroy the gains for each and all. The refining group wherein competing units fail to subordinate personal ambition to a collective adjustment of production to meet the size of the market that will consume its goods at the fairest net return but courts disaster.

Companies within the oil industry that may elect to produce and refine crude oil, refine and market distillations, or combine the functions of producers, refiner and marketer under a single management, infringe neither economic laws nor the ethics of good business conduct. In fact, much might be said in favor of those that integrate.

The danger lies in the constant temptation presented for one component of the integration to seek volume in its transactions regardless of the ill-effect upon other branches of the industry that may be complemental to the integration. Thus it



P. M. MISKELL

sometimes occurs that companies with crude production contribute to an oversupply of refined products, and refiners contribute to an overbuilt system of distribution.

WITHIN reasonable limits of price variation the procedures outlined have but slight effect upon the total volume of ultimate consumption. They do, however, menace the maintenance of a fair and profitable margin between the cost of raw material to the refiner and the cost of refined products to the consumer, therefore, if it is granted that the producer, the refiner, and the marketer, perform a useful service, regardless of any temporary advantage that may accrue, such procedures must eventually prove self-destructive and should be classed as infringements on the rights of others.

With respect to those in the refining business, who, with disregard for costs, seek volume of business through the simple process of unwarranted price recessions, they also must be classed with those who ignore the basic principles of our national, personal and business code. The attainment of a momentary advantage that must eventually impair the profitable operation of their own business, even when the process forces hardship on competitors, in the end is but commercial suicide.

Possibly they are blinded to their ultimate welfare by the nearness of the immediate reward, or again they may imagine that their available funds might well be spent in the destruction of competitors that eventually, through an artificial scarcity of products, they might recoup their losses at some future time. Such lines of reasoning, however, are fallacious.

At best unwarranted price recessions afford but temporary advantage for news of prices quickly spreads to the entire industry, and the whole price structure continually tends to revert to the level established by these recessions and thus destroys the opportunity for even temporary rewards in the form of gallonage. Eventually under such a process refinery survival would be but a matter of crude discovery by integrated companies, and who would know, under such a system, just when and upon whom the blow would fall—just which ones would survive and which would perish.

BY ALL means let us have "Survival of the Fittest." Not of the brand that comes from ruthless warfare, but that made possible by careful procedure along the lines suggested by past experience and a constant study of the economic news that comes to hand—a survival really based on fitness and where elimination falls only to the lot of those who prove incompetent—a survival that leaves nothing to mere hazard but recognizes refining as a business entitled to its rights and compensations.

Let refiners co-operate in the proper spirit and make secure their own salvation. Not the co-operation that insists procedure must be suited to the selfish aims of individuals and that "everyone is out of step but Jim," but the co-operation that respects the rights of others and is willing to give and take that the industry within which they operate may enjoy its right to prosper.

Let refiners, as well as complementary factors of the petroleum group, prepare for that day—and such a day will come—when investors tire and turn from statements with their rows of figures, and, regardless of the red or black, demand of each an accounting of his contributions to stability and the general welfare.

In view of both past achievements and future necessities refining, as an industry, well justifies its independence. Therefore, let the industry assert its right, quoting the conclusion of Washington's Farewell Address, "to progress without interruption to that degree of strength and consistency which is necessary to give it, humanly speaking, the command of its own fortunes."

Columbia Refining Picnic

CLEVELAND, Aug. 2.—The annual picnic of the Columbia Refining Co. is to be held Aug. 7 at Ruggles Beach, a lake shore resort west of Cleveland. Employes from branches as well as the Cleveland office will attend. William Pate, of the Cleveland office, is in charge.

Shrunken Profits Reflect Low Prices and Overproduction This Year

By Roger B. Stafford
N. P. N. STAFF WRITER

Staff Special
CLEVELAND, Aug. 1

OIL COMPANY reports for the second quarter of 1927 show the effects of increased production and low prices for both crude and refined oils. With few exceptions the companies whose earnings statements for the second quarter and half year have been issued show considerable declines from earnings in the corresponding quarter and half year of 1926.

The largest gain in net profits of any company was the Tidal Osage Oil Co. whose income this year was greatly increased through sale of flush production from the Seminole fields. Houston Oil Co. reported larger operating income. Net profits were $4.28 per $100 share but a statement of its net profits in the first half of 1926 was not published. Houston Oil has benefited in the last year from the laying of pipe lines into Houston, Texas, where it wholesales natural gas.

Pierce Petroleum Co. reported a profit for the second quarter and a decline of $63,000 in the net loss on its operations in the first six months. Independent Oil & Gas Co., which is one of the Seminole producers, reported a small gain in net profits in the six months. It had not issued a report separating the second quarter income. Independent's crude production, around 15,000 barrels a day in the second quarter was said to have been about double its production in the second quarter of 1926.

Marland Oil Co. has been one of the worst sufferers among the companies that have issued statements. Marland lost $2,155,500 on its second quarter operations, compared with earnings of $4,221,351 after all charges except federal income taxes in the second quarter of 1926. In the half year the company lost $1,926,808 compared with $7,851,417 profits before federal income taxes in the first half of 1926.

Marland has not benefited from any of the Seminole flush production except in the price it may pay for crude oil for its refinery, and it has suffered severely from the low prices for refined oils. It lost a large contract with the Standard Oil Co. of New Jersey this year and has had to make a much greater sales effort to dispose of its output.

Phillips Petroleum Co. reports a 40 per cent decrease in its operating income for the second quarter to $4,824,154. For the half year the operating income shrank from $14,201,016 last year to $11,628,873 this year. Both these sums were subject to depreciation and depletion reserves, the latter of which should be fairly large in view of the company's flush production in Texas, particularly the Panhandle. Phillips has little production in Seminole. No reserve for federal income tax was set up.

PHILLIPS has issued a statement that its gross crude oil production in the first six months of 1927 totaled 13,350,611 barrels, compared with 6,948,320 barrels in the first half of 1926. Net production was 9,817,260 barrels compared with 5,209,594, an increase of 89 per cent. It produced 90,152,133 gallons of natural gasoline, or 17 per cent more than the 77,121,362 gallons produced in the first half of 1926. Natural gas sales totaled 52,664,830,000 cubic feet compared with 29,752,318,000 cubic feet last year.

NET profits of Barnsdall Corp. were lowered almost one half and of the Sun Oil Co. almost two thirds. Lion Oil Refining Co., Texas Pacific Coal & Oil Co. and White Eagle Oil & Refining Co. suffered shrinking of profits but the last mentioned at least, and the Sun Oil Co. earned their dividends.

Earnings of several companies in the second quarters of 1927 and 1926 compare:

	1927	1926
American Republics	*$202,339	$670,168
Barnsdall Corp.	687,084	955,599
Houston Oil Co.	657,123	‡889,110
Marland Oil Co.	*2,155,500	†4,221,351
Phillips Petroleum	††4,824,154	††8,079,752
Pierce Petroleum	†56,556	†18,504
Texas Pacific C. & O.	‡652,936	‡1,134,124
Tidal Osage Oil	†623,546	†180,942
White Eagle	††702,688	††927,777

* Loss † Before federal income taxes ‡ Before depreciaton and depletion.

New Purol-Woco Pep Marketer

GAINESVILLE, Ga., Aug. 1.—A new distributor for Pure Oil Co. and Wofford Oil Co. of Georgia products has been added here with the organization on July 23 of the Gainesville Oil Co. Men who are well known to the trade in Gainesville organized the company, among them being H. P. Hawkins, who has been in the oil business for the past 20 years. Mr. Hawkins is president and manager of the new company.

Comparative Condensed Earnings Statements for First Half of 1927 and 1926

Company	Year	Gross Operating Income	Expenses Costs etc.	Net Operating Income	Total Income	Deprec. Deplet. Other Res.	Net Profits	Net to Common a Share	Quarterly Dividend on Common
American Republics Corp.	1927	$13,952,884	$13,952,884	$ 593,480	$ 593,480	.....	$ 132,117	0	.....
do	1926	13,912,642	12,435,514	1,477,128	1,477,128	.....	1,093,771	$3.71	.....
Barnsdall Corp.	1927	12,716,435	7,797,516	4,918,919	4,949,410	$2,406,727	1,642,683	1.43	$0.62½
do	1926	15,038,211	9,177,586	5,860,625	5,907,513	2,753,696	3,153,817	2.77	.50
Houston Oil Co.	1927	4,826,360	2,524,939	2,301,421	2,301,421	963,402	1,338,019	4.28	.....
do	1926	3,236,414	1,775,624	1,460,790	.....	.....	.....	.....	.....
Independent Oil & Gas Co.	1927	.....	.....	.....	.....	.....	959,134	1.91	.25
do	1926	.....	.....	.....	.....	.....	929,429	1.86	.25
Lion Oil Refining Co.	1927	3,243,885	2,278,451	965,434	988,325	.....	.....	.....	.50
do	1926	4,089,841	3,033,425	1,056,416	1,069,544	.....	.....	.....	.50
Marland Oil Co.	1927	32,180,099	25,935,819	6,244,280	8,047,852	9,974,660	†*1,926,808	0	.....
do	1926	37,039,541	29,741,881	7,297,660	11,424,811	3,573,394	†7,851,417	3.86	1.0
Phillips Petroleum Co.	1927	22,745,800	11,116,927	11,628,873	.....	.....	.....	.....	.....
do	1926	22,650,960	8,449,944	14,201,016	.....	.....	.....	.....	.75
Pierce Petroleum Co.	1927	4,120,898	3,688,700	432,198	432,198	505,137	*72,939	0	.....
do	1926	3,826,834	3,508,711	318,123	318,123	454,207	*136,084	0	.....
Richfield Oil Co.	1927	.....	.....	.....	.....	.....	†1,483,547	.....	.25
Sun Oil Co.	1927	23,506,482	21,947,184	1,559,298	2,291,857	1,688,271	603,586	.51	.25
do	1926	.....	.....	.....	3,361,022	1,611,403	1,749,619	1.58	.25
Texas Pacific Coal & Oil	1927	4,279,678	3,020,734	1,258,944	1,406,783	.....	‡1,346,872	.....	.....
do	1926	3,813,784	2,142,828	1,670,956	2,023,779	.....	‡1,908,646	.....	.....
Tidal Osage Oil Co.	1927	.....	.....	.....	.....	.....	†2,732,911	.....	.....
do	1926	.....	.....	.....	.....	.....	† 292,666	.....	.....
White Eagle Oil & Refg.	1927	7,733,267	6,564,270	1,168,997	.....	.....	††1,090,694	.....	.50
do	1926	8,508,241	7,121,089	1,387,152	.....	.....	††1,344,692	.....	.50
Wilcox Oil & Gas (5 mos.)	1927	1,547,831	485,319	1,062,513	1,062,513	704,383	358,130	.....	.50

*Loss †Before Federal Income Taxes ‡Before Depreciation and Depletion.

Tower service station of Crew Levick Co. on one of main thoroughfares in Niagara Falls, N. Y. Screen of Lombardy poplars was planted along property line back of station after picture was taken. Appearance also has been enhanced by planting of flowers and shrubs in front.

Medieval Style Station Owned by Crew Levick Co.

NIAGARA FALLS, N. Y.—Crew Levick Co., the Cities Service Co.'s eastern refining and marketing subsidiary, has purchased a stone service station built last fall by the Tower Oil Co. at Niagara Falls. This purchase gives the Crew Levick Co. two stations in Niagara Falls.

The station is built of native rubble stone with cut stone caps. The style is romanesque. Distinctive features are two round towers, one at each end of the main station building. These towers which gave a name to the local company that built the station, are surmounted by battlements.

The windows, in harmony with the motif of the structure, are narrow and recessed. The doors are rough cut batten with heavy hand wrought hinges and latches.

The towers contain the rest rooms for men and women. The entrance to the women's rest room is from an outside door and to the mens' room from the salesroom.

The station has been built on a plot with frontage of 335 feet on the main highway into the city of Niagara Falls from Buffalo. The plot is irregularly shaped and the maximum depth is 175 feet. The drives in front of the station are 50 feet wide.

There is a railroad in the rear of the property with a spur that leads almost to the rear of the station. The station has a 20,000-gallon tank mounted horizontally and sufficiently high above ground to permit gravity feed to the metered dispensers of which there are eight in six square rubble stone columns. Each square column on the island contains two gasoline outlets. The storage tank is used for advertising.

When the station was built, the fences, yard lamp standards, station trim and a small wooden structure that is used for oil storage far to the right of the stone station, were painted green. Trees, shrubs and flowers are being planted about the station yard.

It is estimated that approximately 1,000,000 tourist automobiles pass this site each year. It also is in position to draw considerable local trade.

"The $1,000,000 figure is based on an early estimate," said W. N. Evans, Crew Levick manager at Niagara Falls, "and may be considered conservative for 1927 when it is known that the station is on the main road to the international bridge and the 'first chance' in recently dampened Ontario."

Powdered Coal on Naval Ships Thought a Joke

WASHINGTON, Aug. 1.—Powdered coal as fuel is what the navy is relying upon for the time when there shall be no more petroleum fuel oil from wells. As a competitor of petroleum, navy officers who are conducting experiments at the League Island navy yard think powdered coal is a joke.

It is pertinent to point out the navy officer view of the matter because men in the Shipping Board who are helping in the experiments have been represented as believing that powdered coal might be made a competitor of petroleum fuel.

As a competitor of oil in domestic heating, powdered coal is almost impossible, strange as that may seem. Coal must be pulverized as and when used at the point of use. Powdered coal, stored in any quantity, all those experimenting with it agree, is almost as dangerous as gunpowder.

The impression obtained from the naval officers familiar with the experimental work is that data pertaining to the use of powdered coal will be useful if and when fuel oil, whether from wells or from shale becomes prohibitive, in price, for any except the most vital use. Then the use of coal on ships of the navy not strictly in the fighting branch would be indicated by reasons of economy.

George H. Taber, Jr., vice-president, Sinclair Refining Co., New York, was among the several thousand that sought shelter under the trees when a thunderstorm broke over the region of the Seneca Oil Spring when the tercentenary celebration and unveiling were progressing, July 23.

California Production Men Are Promoted

Staff Special

LOS ANGELES, July 30.—A number of promotions in the operating department of the Standard Oil Co. of California was announced this week, effective Aug. 1, due to the selection recently of M. E. Lombardi as a member of the board of directors, thus leaving open his position as assistant general manager of the producing department with headquarters at San Francisco.

Walter G. Black, manager of operations in southern California, was named to this position. Mr. Black is succeeded by Len B. Little, who has been serving as general superintendent in the northern district. Roy Fry, assistant to Mr. Little, becomes general supperintendent of the northern district, with A. L. Tietze, superintendent in the Huntington Beach division, as his assistant.

C. A. Dailey, superintendent of the Torrance-Inglewood division, succeeds Mr. Tietze at Huntington Beach, and W. N. Thompson, one of Mr. Little's assistants in Northern California, takes over the duties formerly handled by Mr. Dailey.

Government Drilling Program Largest Single Oil Operation in Mexico

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, July 21

FEDERAL zone drilling along the right-of-way of the San Luis Potosi branch of the National Railways of Mexico constitutes the largest single operating program now under way in the Tampico oil region.

Contract for 20 wells in the Salinas area has been awarded to the Compania Constructora Latino Americana, S. A., of Tampico, by the Control de Administracion del Petroleo Nacional, which was formed several years ago by the Mexican government to exploit federal zone properties.

The "Control" already has made locations for 6 wells included in its Salinas program and, according to Tampico advices, will complete its work in this area within the next 12 months. Because of its governmental character the "Control" will not be hampered in operating because of inability to obtain drilling permits such as has been experienced by foreign companies in Mexico.

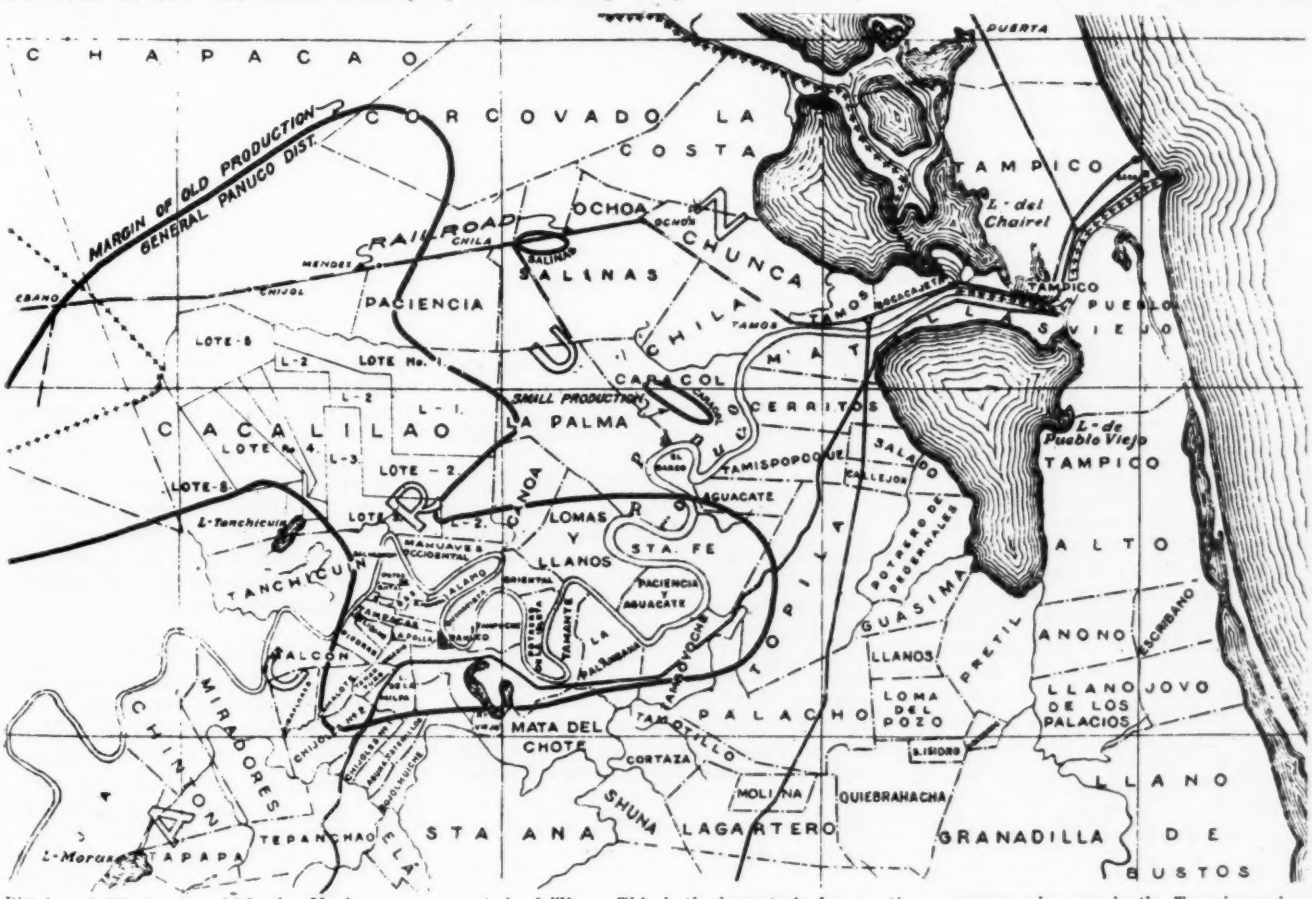
Private oil enterprise in Mexico has been at low ebb since January 1, last, effective date of petroleum regulations issued by President Calles for enforcement of the Carranza constitution of May 1, 1917. Drilling permits have been refused by the Mexican government, in one or more instances, to virtually every foreign company operating in the republic; in some cases in the drainage areas of federal zone development such as Mexican Gulf Oil Co. locations in Salinas.

THE position taken by the Mexican government is indicated in a formal statement issued July 7, in connection with its refusal of new drilling permits to the Transcontinental Oil Co., operating subsidiary in the Tampico district of the Standard Oil Co. of New Jersey. The department of Industry, Commerce and Labor said its refusal was because of the company's failure to apply for confirmation of rights or properties acquired prior to the Carranza constitution.

A point in controversy has involved the willingness of foreign companies to accept 50-year confirmatory concessions on properties acquired prior to the May 1, 1917, constitution; the position being taken that Mexico's nationalization of petroleum in the subsoil would be thus made retroactive and confiscatory. Rights acquired after May 1, 1917, are not in dispute and the oil companies generally have taken concessions on such properties.

The Department of Industry, Commerce and Labor at Mexico City periodically announces the issuance of additional 50-year confirmatory concessions on properties acquired before the Carranza constitution, but oil companies are just as regularly refusing to accept them.

WITH regard to the government's refusal of drilling permits the Department's statements set forth this does not constitute confiscation of the company's rights or properties, which is not contemplated by the government, inasmuch as the issue at present is before the courts of Mexico for decision. From an industrial and



District of Mexico in which the Mexican government is drilling. This is the largest single operating program under way in the Tampico region.

engineering viewpoint, however, this takes no account of drainage conditions in areas where permits have been refused for locations adjacent to federal zone development.

"El Excelsior," Spanish language newspaper at Mexico City, recognizes in its issue of July 7 that continued curtailment, or reduction, of operations in the Tampico fields "is causing a severe economic situation, throwing thousands of workmen out of employment in the oil and mining regions."

The newspaper attributes the oil industry reduction to dissatisfaction with the Mexican oil laws, a diminishing yield in some fields, prolonged bad weather, a movement in the United States for the curtailment of production and, to some extent, the attractiveness of South American fields in comparison with Mexico.

"El Excelsior" thus recognizes industrial facts oft-repeated in NATIONAL PETROLEUM NEWS regarding the passing of the South country "Golden Lane" as a source of much more than "skimming quantities" of crude from mainly depleted fields; also it, in effect, recognizes that vast sedimentary areas in Mexico, which conceivably may eventually yield great quantities of oil under operating conditions similar to those found in the United States, will not come in for profitable exploitation until economic and political conditions are far more favorable in the distant future.

MEANTIME, the "Control" has locations made or work actually under way for 11 of the 107 wells comprising total operations in the general Tampico district. Five of these are in the Panuco and Tamesi areas and 6 along the railroad right-of-way in Salinas.

Mexican Petroleum Co., arm of the Pan-American group, has 12 wells under way in the Ebano region; and the affiliated Huasteca Petroleum Co. is drilling a single well on the Tierra Blanca "high spot" of the lower country.

The Franco-Espanola subsidiary of Marland Oil Co. of Mexico, S. A., is going ahead with 6 wells on its Forns lease, in Limon hacienda, southwest of Ebano; Mexican Sinclair Oil Companies have 7 operations under way in Cacalillao; The Texas Co. of Mexico, S. A., 2 wells drilling in the old part of the Panuco district; New England Fuel Oil Co., 3 in old territory; International Petroleum Co., subsidiary of Mexican Seaboard Oil Co., of Maine, 1 in San Carlos; East Coast Oil Co. of Mexico, S. A. (Southern Pacific), 2 in Panuco territory; Craig, Morrison & Barbour, 1; Chileno-Mexicana, 2; Martin F. Head, S. en C., 2; Compania Petrolera "La Territorial," 3; Drillers Percentage Association of Mexico, S. A., 2; Richmex Oil Co., 7; Compania Francia-Mexico, 1; National Oil Co., 1; Cortez Oil Corp., 1; Mordelo Vincent, 1; Globe Petroleum Co., 1; Beveridge & Halliday, 3; Compania Petrolera "William Nienau," S. A., 4; Cosmos Oil Co., 6; F. C. Millian, 1; Standard Drilling Co., 1.

Kern Mex Oilfields, Ltd., operating entirely in Salinas at this time, has 8 operations under way. Of Mexican Gulf's four present operations three are in Salinas, where it recently completed 2 wells good for initial productions of 10,000 barrels and upwards, daily. The Gulf's fourth test is in the Altamira area.

Transcontinental has 6 wells under way and is waiting on permit for a seventh, most of these operations being in the Cacalillao area of the general Panuco district.

Mexican Eagle Oil Co., Ltd., stock-controlled arm of the Royal Dutch-Shell group, has 4 operations under way in the South country; and the Shell's direct subsidiary, "La Corona," is drilling 4 wells in the old Panuco district.

Oil now produced by the "Control" in the Mendez area of Chapacao is handled east along the railroad right-of-way through a pipe line purchased some time ago from the National Oil Co. (Henry L. Doherty interests) to a terminal on the Panuco river. Development in the Mendez area has been under partnership contract with the Mexican Petroleum Co., which controls all Chapacao acreage other than the federal zone right-of-way.

Specialize on Road Information

Surroundings at this drain rack at a National Refining Co. service station at Findlay, Ohio, are kept neat and attractive to the customer through the shed at the rear of the pits where all tools and equipment are kept out of sight of patrons

FINDLAY, O.

ROUTE information for tourists is one service featured at National Refining Co. stations here. Each station carries a sign prominently over the doorway, "Ask us about the roads. We have the state highway detour bulletins".

In a glass display case conveniently located is carried a late road map put out by the state. Alongside that is also carried the weekly detour map put out by the same department, showing roads under repair, necessary detours and condition of the detours.

The company is also pushing the sale of its packaged products by displaying them on a neat table in front of the station, between the drives where possible, motor oils, cup grease, gear compounds and so on. Another sign on the building calls attention to the quality of the kerosene the company handles.

At its drain pits at stations here, the company uses a bolted wooden rack, very substantial in appearance, which is made by its own men at its refinery here. The racks can be put up in an hour. Pits are used under these racks in some cases, but most are placed on the ground, with the heavy suporting foundation timbers partly buried. The company has lately been making the racks a few feet longer than before, giving a more gentle slope up to the platform. Ground around the racks is graveled and kept scrupulously clean. The racks themselves are aluminum painted.

All supplies and tools used in greasing, coveralls the attendants use, tools used around the station, such as the lawnmower and barrel for rubbish, are kept in a small frame building about 12 feet long and four wide placed just at the back of the drain racks, thus keeping all this material out of sight of customers and aiding in the spick and span appearance of the stations.

Dry Cleaning Offers Growing Market For Big City Jobbers

By Ward K. Halbert
N. P. N. STAFF WRITER

CHICAGO, July 29

CONSUMPTION of cleaners' naphtha in Chicago has doubled in the last five years. Every two years the Chicago Master Cleaners & Dyers Association collects confidential statistics from its membership and data are compiled at those times to show the industry's progress.

Only the totals are released for publication. A biennial survey has just been completed and association officials estimate the city's annual naphtha consumption at 12 million gallons.

There are about 150 modern cleaning establishments in Chicago, more than 100 of which are in the association. The number of cleaners has increased considerably over two years ago but in spite of that the volume of business done by each of the older companies has increased. Some cleaners have more than doubled their business; others have expanded much less but all have grown. No cleaner has ever gone broke in Chicago. This is the association's proudest statistic.

THE fact that the cleaning business in Chicago is twice as good a customer of the oil industry as it was five years ago is especially surprising in view of the modern equipment now in general use among cleaners. With few exceptions all dry cleaners are equipped to recondition their naphtha and use it over and over indefinitely. Their loss is nearly 100 per cent evaporation.

All of Chicago's 150 dry cleaners are tank wagon customers. Not even the biggest one in town buys in car lots and the same is said to be true in other cities. This is due, at least in part, to the fact that a dry cleaner's best location is in or near a good residence section and not by a railroad yard.

Trackage is not required in the cleaning business and few cleaners have it so, regardless of size, they are not equipped to buy in car lots. Moreover, it would be an unusually large plant that required such a volume. By nature, cleaners are jobbers' prospects.

THERE are two products which dry cleaners generally use: light cleaners' naphtha and Stoddard solvent. Both are special cuts and the cuts are easily obtained from a cracking plant, although both can be made by a skimmer. Cleaners' naphtha is a thin cut, the use requiring a product that dries quickly and cleaners generally prefer a high flash point as a matter of safety. Stoddard solvent is a similar product specially treated to raise the flash point.

A large majority of the Chicago cleaners use Stoddard solvent because, as pointed out by S. N. Abrams, secretary of the association, those who use it enjoy a 30 per cent reduction in insurance rates and the material lasts longer than the other naphtha because there is 25 or 30 per cent less loss by evaporation.

Moreover, the two products are the same price from tank wagon: 18 cents a gallon now. Mr. Abrams is head of the Clifton Cleaners at 5709 North Clark St. The executive who gives the association his full time is the president.

THE preference for Stoddard solvent is not unanimous among cleaners. Regular cleaners' naphtha has an extensive market in Chicago. A number of cleaning concerns prefer it for performance in spite of the arguments offered for the other product.

Almost any refiner can make, and a great many do make, special naphthas for the cleaning trade. Comparatively little is made in Oklahoma in view of the amount of crude oil refined there. Sales representatives for Oklahoma plants in this territory say it has not proven profitable because the special cut takes the heart out of the crude and detracts from the quality of the gasoline that batch of crude would yield. Standard Oil Co. of Indiana, the Sun Co., and Anderson-Prichard of Oklahoma City manufacture most of such material offered in the Chicago territory.

The leading distributor of cleaners' naphthas in Chicago is the George C. Peterson Co., at 208 South La Salle St., jobbers and carload marketers of all kinds of oils, although their prices are higher than some.

"THE Petersons came into this industry and worked with us," one Chicago cleaner said recently. "Some of us did not know what we wanted ourselves. The Peterson Co. supplied us with a good product from the start and they have improved it to meet our peculiar needs. For a long time they had a special man studying the business to help us out. I don't think any company could get Petersons' lead in this industry, no matter what sort of a price they offered."

O. L. Peterson was modest in discussing his company's achievements in the naphtha business. "We are not refiners," he said, "but our naphthas are made absolutely to our specifications. It is desirable business in any big city and we have tried to keep up with the industry and serve it well for several years. Like selling any specialty, the oil man must know the trade he serves, and his products must be uniformly good.

"It has been profitable to the George C. Peterson Co.," he went on. "We have sold approximately $1,000,000 worth of naphthas to the cleaning trade and last month we had our first loss, less than $200. It was not a loss due to poor credit. The customer said we did not deliver him the right material and we waived the question rather than argue about it. One loss over 5 or 6 years is a good record."

WHERE the Peterson company has been exceptionally fortunate is in the loyalty of the industry. Cleaners seem to appreciate customers who trade with them consistently, and they practice the rule themselves. The oil man who sells a cleaner his solvents often sells him

Another Avenue to Profits

THAT the oil marketing company may well consider the possibilities in its territory for merchandising other products than gasoline, motor oil, kerosene and perhaps furnace oil has been pointed out previously in NATIONAL PETROLEUM NEWS.

The accompanying article gives the experience of one company in servicing a line which only few oil companies have catered to—the dry cleaning business.

Other articles, appearing from time to time in the future, will show what some marketing companies have done with still other products often considered outside the oil marketers' line.

motor fuel for his delivery trucks also. Cleaners fleets are invariably good consumers.

"I buy my gasoline from George C. Peterson too." Mr. Abrams stated. "They gave satisfaction on the solvents and I like to give them the rest of my oil business. One truck can make both deliveries at once and it is convenient to do business with one company. They don't handle 18-22 fuel or I might have bought my furnace oil from them."

Dry cleaners, like laundries, are good fuel oil prospects because coal soot floating in the air often soils the clothes they have on hand to clean. The average cleaner in Chicago uses three petroleum products in quantity, fuel oil, motor fuel and solvents.

The business is adapted to a city, Mr. Peterson points out. The bulk of the increase in the use of naphthas is in metropolitan districts. City folks have their clothes cleaned oftener than they did a few years back. And besides, see how women's clothes have changed. They don't go to the wash tub now, they go to the cleaner. Rugs too go to the cleaner. You rarely see a carpet cleaned with a beater on the back fence any more.

"In order to market cleaners' naphthas profitably, a jobber almost has to be in a town of 50,000 population. That will enable him to buy in tank car lots. No dealer can control all the business in his line. He must expect to have competition. If a town is less than 50,000 there is hardly enough naphtha business to divide."

The machinery in a modern dry cleaning establishment to recondition naphtha provides a continuous process. The clothes are cleaned in a machine that resembles a big electric washer. Naphtha is pumped to the machine through one pipe and out through another continuously. The pipes are parallel and each has a glass section. The in-coming naphtha is clear and the outgoing flow looks muddy. When the colors shown in the two pipes are both clear, the clothes are clean and it is time to put in a new batch.

The naphtha discharge line leads from the washer to a filtration system and back through it to storage. When the clothes are taken from the washer they are placed in a centrifugal machine that whirls the naphtha in the fabric out into a drum which in turn discharges to the filtration system. Only the vapors that escape to the air while the clothes are being pressed may be classed as loss. And Mr. Abrams estimates that at 12 million gallons a year in Chicago.

Plans Perfected for Twenty-Fifth Annual Meeting of N. P. A.

WARREN, Pa., Aug. 1.—The twenty-fifth annual meeting of the National Petroleum Association will be held at Hotel Traymore, Atlantic City, Sept. 14, 15 and 16. In an interview with E. M. Lyons, president of the Tiona Refining Co., Clarendon, Pa. today it was learned that all committees named at the semi-annual meeting at Cambridge Springs last April have been hard at work perfecting plans for the approaching meeting.

Mr. Lyons, who is trustee in charge of the department of trade and commerce of the association, is also general chairman of the anniversary meeting. Messrs. O. P. Keeney and Fayette B. Dow, president and general counsel respectively of the association, are also ex officio members of all committees. Some idea of the extensive plans being made can be had from the membership of the various committees which follows:

PROGRAM: P. S. Tarbox, Independent Refining Co., Oil City, Pa., chairman; M. F. Cowden, Penna. Oil Products Refining Co., Eldred, Pa.; Percy L. Craig, Freedom Oil Works, Freedom, Pa.; G. S. Davison, Gulf Refining Co. Pittsburgh, Pa.; Dr. Frank Fritts, Indian Refining Co., Lawrenceville, Ill.; Frank C. Hart, Hartol Products Corp., Franklin, Pa.; James Lewis, Bradford Oil Refining Co., Bradford, Pa.; Frank F. Moore, McKean County Refining Co., Bradford, Pa.; J. Howard Pew, Sun Oil Co., Philadelphia, Pa.; A. W. Scott, Empire Oil Works, Reno, Pa.

RECEPTION: R. A. Wotowitch, Chairman, Henry L. Doherty & Co., New York, N. Y.; Frank B. Fretter, National Refining Co., Cleveland, Ohio; H. A. Logan, United Refining Co., Warren, Pa.; Samuel Messer, James B. Berry Sons' Co., Oil City, Pa.; Wm. Muir, Warren, Pa.; W. E. Wall, Wall & Steigerwald, Cleveland, Ohio; A. C. Woodman, Acewood Petroleum Corp., New York, N. Y.

HISTORY: Herbert G. Eaton, Chairman, Mutual Refining Co., Warren, Pa.; Geo. P. Brockway, Seneca Oil Works, Warren, Pa.; Louis Carruth, Canfield Oil Co., Cleveland, Ohio; C. D. Chamberlin, National Petroleum Association, Cleveland, Ohio; A. L. Confer, Empire Oil Works, Reno, Pa.; J. A. Fawcett, Crystal Oil Works, Oil City, Pa.; W. H. Fehsenfeld, Red "C" Oil Co., Baltimore, Md.; Frank B. Fretter, National Refining Co., Cleveland, Ohio; Wm. Muir, Warren, Pa.; W. E. Wall, Wall & Steigerwald, Cleveland, Ohio.

FINANCE: Otto Koch, Chairman, Kendall Refining Co., Bradford, Pa.; Louis Carruth, Canfield Oil Co., Cleveland, Ohio; T. J. Hilliard, Waverley Oil Works. Pittsburgh, Pa.; G. B. Hunter, Emlenton Refining Co., Emlenton, Pa.; H. A. Logan, United Refining Co., Warren, Pa.; C. L. Suhr, The Pennzoil Company, Oil City, Pa.; A. C. Woodman, Acewood Petroleum Corp., New York, N. Y.

BANQUET AND ENTERTAINMENT: S. P. Worthington, Chairman, Tiona Petroleum Co., Philadelphia, Pa.; Fred G. Clark, Fred G. Clark Co., Cleveland, Ohio; L. C. Jamieson, Viking Oil Corp., Clarendon, Pa.; C. H. Longshore, Acewood Petroleum Corp., New York, N. Y.; R. A. Wotowich, Henry L. Doherty & Co., New York, N. Y.

ATTENDANCE AND PUBLICITY: Howard H. Green, Chairman, Kendall Refining Co., Bradford, Pa.; A. F. Anderton, Continental Refining Co., Oil City, Pa.; John A. Beck, Pennsylvania Refining Co., Karns City, Pa.; C. A. Boler, Tiona Refining Co., Philadelphia, Pa.; B. W. Browne, Great Western Oil Co., Cleveland, Ohio; Sheldon Clark, Sinclair Refining Co., Chicago, Ill.; John S. Cordell, Cities Service Refining Co., Boston, Mass.; G. C. Davison, Tri-State Refining Co., Kenova, W. Va.; Fred C. Eaton, Valvoline Oil Co., Warren, Pa.; J. P. Flynn, Ohio Valley Refining Co., St. Marys, W. Va.; H. F. Fuller, Sinclair Refining Co., New York, N. Y.; D. W. Grant, Franklin Creek Refining Co., Franklin, Pa.; C. A. Gustafson, Gustafson Bros. Oil Co., Chicago, Ill.; T. C. Hawkey, Tidioute Refining Co., Tidioute, Pa.; Henry Hauseman, Pure Oil Co., Chicago, Ill.; J. F. Heilman, Levi Smith Refining Co., Clarendon, Pa.; D. W. Hovey, Waverley Oil Works, Pittsburgh, Pa.; C. J. Leroux, Paragon Refining Co., Toledo, Ohio; Harry R. Lewis, Conewango Refining Co., Warren, Pa.; L. B. McCammon, Transcontinental Oil Co., Tulsa, Okla.; W. A. McCafferty, Emery Manufacturing Co., Bradford, Pa.; Samuel Messer, James B. Berry Sons' Co., Oil City, Pa.; J. B. Miller, A. D. Miller Sons' Co., Pittsburgh, Pa.; P. M. Miskell, Empire Refineries Co., Petrolia, Pa.; Wm. Schwartz, Warr-Penn Refining Co., Warren, Pa.; F. B. von Tacky, Titusville Oil Works, Titusville, Pa.; and G. G. Woodruff, Roxana Petroleum Corp., St. Louis, Mo.

ST. LOUIS, July 30.—The first national meeting of the fuels division of the American Society of Mechanical Engineers will be held on Oct. 10 to 13 inclusive at St. Louis.

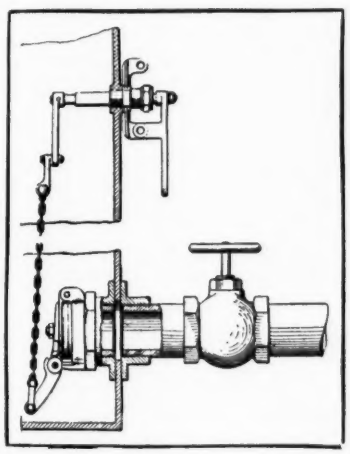
Because of the cost of fuels, damage to property and the menace to health caused by imperfect combustion, the meeting will be an important one both to engineers and the public. Some action, the society states, should be taken to improve the present methods of using fuels.

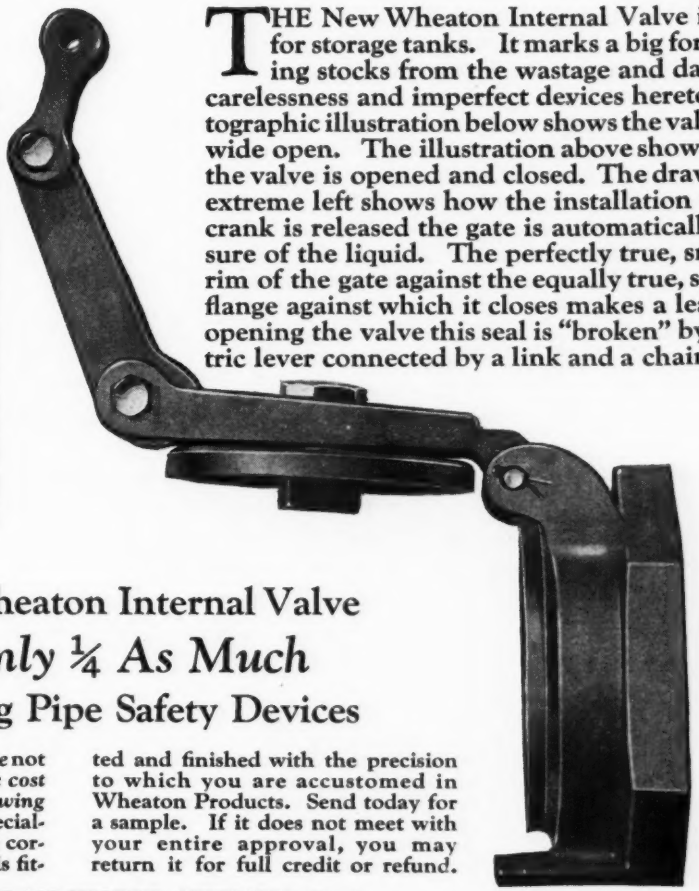
It's New!

An Internal Valve For Storage Tanks

—*It Assures Utmost Safety*

This photograph shows the crank by which the new Wheaton Internal Valve is opened and closed. The crank can be locked in either position.





THE New Wheaton Internal Valve is especially designed for storage tanks. It marks a big forward step in protecting stocks from the wastage and dangers resulting from carelessness and imperfect devices heretofore used. The photographic illustration below shows the valve as it appears when wide open. The illustration above shows the crank by which the valve is opened and closed. The drawing in the box at the extreme left shows how the installation is made. When the crank is released the gate is automatically closed by the pressure of the liquid. The perfectly true, smooth surface of the rim of the gate against the equally true, smooth surface of the flange against which it closes makes a leak-proof seal. When opening the valve this seal is "broken" by means of the eccentric lever connected by a link and a chain to the crank above.

The New Wheaton Internal Valve *Costs Only ¼ As Much* As Old Swing Pipe Safety Devices

The *new Wheaton Internal Valve* not only assures *safety* but its *whole cost is less than ¼ the cost of the old swing pipe device.* It is built of a special-analysis brass alloy that will not corrode or crystallize. Every part is fitted and finished with the precision to which you are accustomed in Wheaton Products. Send today for a sample. If it does not meet with your entire approval, you may return it for full credit or refund.

Leak-Proof Self-Sealing

The photograph on the left shows the valve after the gate has been raised. Sizes: 2, 2½, 4 and 6 inches. Larger sizes built to specifications.

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Wheaton

FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended July 29 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended July 29	Total Week Ended July 1
Plants Reporting	23	46	41	14	124	124
Crude Capacity (bbls.)	106,220	165,900	144,300	53,700	470,100	470,100
Cracking Capacity	29,000	45,800	15,750	20,200	110,750	110,750
Da. Av. Crude Runs	62,854 — 5.9	118,791 + 5.0	70,636 + 7.0	47,287 + 6.1	299,568 + 3.1	278,682
Da. Av. Other Oils	4,523 — 8.2	227 — 61.6	5,192 — 38.7	759 — 34.6	10,701 — 29.4	10,332
GASOLINE—Gallons						
Stocks, July 22	8,198,000	43,893,000	16,705,000	3,862,000	72,658,000	85,307,000
Prod. 7-22 to 7-29	9,237,000 — 4.6	17,255,000 + 0.8	8,190,000 + 8.4	3,880,000 — 3.3	38,562,000 + 0.5	35,904,000
Ship. 7-22 to 7-29	8,815,000 — 17.2	19,063,000 + 15.9	8,360,000 — 2.0	4,477,000 + 13.3	40,715,000 + 2.8	39,516,000
Stocks, July 29	8,620,000 + 5.1	42,085,000 — 4.1	16,535,000 — 1.0	3,265,000 — 15.5	70,505,000 — 3.0	81,695,000
Ratio Sales to Prod.	95.4%	110.5%	102.1%	115.4%	105.6%	110.1%
KEROSENE—Gallons						
Stocks, July 22	3,251,000	6,046,000	2,157,000	984,000	12,438,000	13,357,000
Prod. 7-22 to 7-29	1,906,000 — 2.0	2,879,000 — 14.4	1,378,000 + 0.5	626,000 + 41.0	6,789,000 — 4.7	5,943,000
Ship. 7-22 to 7-29	2,035,000 + 10.2	2,893,000 — 1.8	1,530,000 + 8.4	398,000 — 40.9	6,856,000 — 0.3	5,396,000
Stocks, July 29	3,122,000 — 4.0	6,032,000 — 0.2	2,005,000 — 7.0	1,212,000 + 23.2	12,371,000 — 0.5	13,904,000
Ratio Sales to Prod.	106.8%	100.5%	111.0%	63.6%	101.0%	90.8%
STOVE DISTILLATE—Gallons						
Stocks, July 22	4,455,000	2,171,000	896,000	56,000	7,578,000	6,383,000
Prod. 7-22 to 7-29	74,000 — 47.5	728,000 + 43.3	366,000 — 0.5	61,000 + 7.0	1,229,000 + 14.4	1,350,000
Ship. 7-22 to 7-29	228,000 +322.2	316,000 — 44.6	338,000 + 21.1	35,000 — 47.8	917,000 — 5.5	1,081,000
Stocks, July 29	4,301,000 — 3.5	2,583,000 + 19.0	924,000 + 3.1	82,000 + 46.4	7,890,000 + 4.1	6,652,000
Ratio Sales to Prod.	308.1%	43.4%	92.3%	57.4%	74.6%	80.1%
GAS OIL—Gallons						
Stocks, July 22	7,714,000	40,261,000	14,330,000	8,439,000	70,744,000	69,649,000
Prod. 7-22 to 7-29	2,041,000 — 10.7	1,578,000 — 23.9	1,201,000 — 27.3	2,076,000 + 26.0	6,896,000 — 9.9	7,606,000
Ship. 7-22 to 7-29	1,677,000 — 11.2	3,061,000 +128.9	1,000,000 +271.7	1,444,000 — 48.3	7,182,000 + 14.2	7,699,000
Stocks, July 29	8,078,000 + 4.7	38,778,000 — 3.7	14,531,000 + 1.4	9,071,000 + 7.5	70,458,000 — 0.4	69,556,000
Ratio Sales to Prod.	82.2%	194.0%	83.3%	69.6%	104.1%	101.2%
FUEL OIL—Gallons						
Stocks, July 22	10,030,000	34,849,000	29,522,000	11,972,000	86,373,000	86,139,000
Prod. 7-22 to 7-29	6,555,000 — 6.7	8,257,000 + 7.2	9,431,000 + 8.5	6,960,000 + 12.6	31,203,000 + 5.4	28,389,000
Ship. 7-22 to 7-29	5,098,000 — 36.2	5,980,000 — 16.3	7,327,000 — 13.9	7,650,000 + 23.6	26,055,000 — 12.6	27,159,000
Stocks, July 29	11,487,000 + 14.5	37,126,000 + 6.5	31,626,000 + 7.1	11,282,000 — 5.8	91,521,000 + 6.0	87,369,000
Ratio Sales to Prod.	77.8%	72.4%	77.7%	109.9%	83.5%	95.7%

Gasoline Produced by Various Methods, Week Ended July 29

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	5,918,000	64.1	13,559,000	78.6	6,764,000	82.6	1,496,000	38.6	27,727,000	71.9
Cracked	2,595,000	28.1	2,832,000	16.4	1,175,000	14.3	2,066,000	53.2	8,668,000	22.5
Natural	724,000	7.8	864,000	5.0	251,000	3.1	318,000	8.2	2,157,000	5.6
Total	9,237,000		17,255,000		8,190,000		3,880,000		38,562,000	

+ or — columns are % changes over previous week.

Gasoline Stocks Fall Although Output is Larger

Staff Special by Telegraph
TULSA, Aug. 2

GASOLINE stocks at 124 Mid-Continent refineries representing about 60 per cent of the operating capacity of the field reduced their gasoline stocks 2,250,000 gallons in the week ended July 29. Gasoline reserves July 29 were 70,505,000 gallons. At the rate of shipment during the week stocks represented 12 days' supply. July 30, 1926, stocks of the same plants represented 9 days' supply at the rate of shipment then current.

Crude runs at reporting refineries were increased an average of 9000 barrels a day to 299,568 barrels a day. This is a little more than 1000 barrels a day less than the peak runs

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended July 22. Change in stocks figured from July 1.

GASOLINE

	Gallons
Production	148,279,000
Shipments	159,487,000
Net change in stocks	— 11,190,000
Ratio sales to production	107.5%

KEROSENE

Production	24,688,000
Shipments	26,221,000
Net change in stocks	— 1,533,000
Ratio sales to production	106.2%

STOVE DISTILLATE

Production	4,841,000
Shipments	3,603,000
Net change in stocks	+ 1,238,000
Ratio sales to production	74.4%

GAS OIL

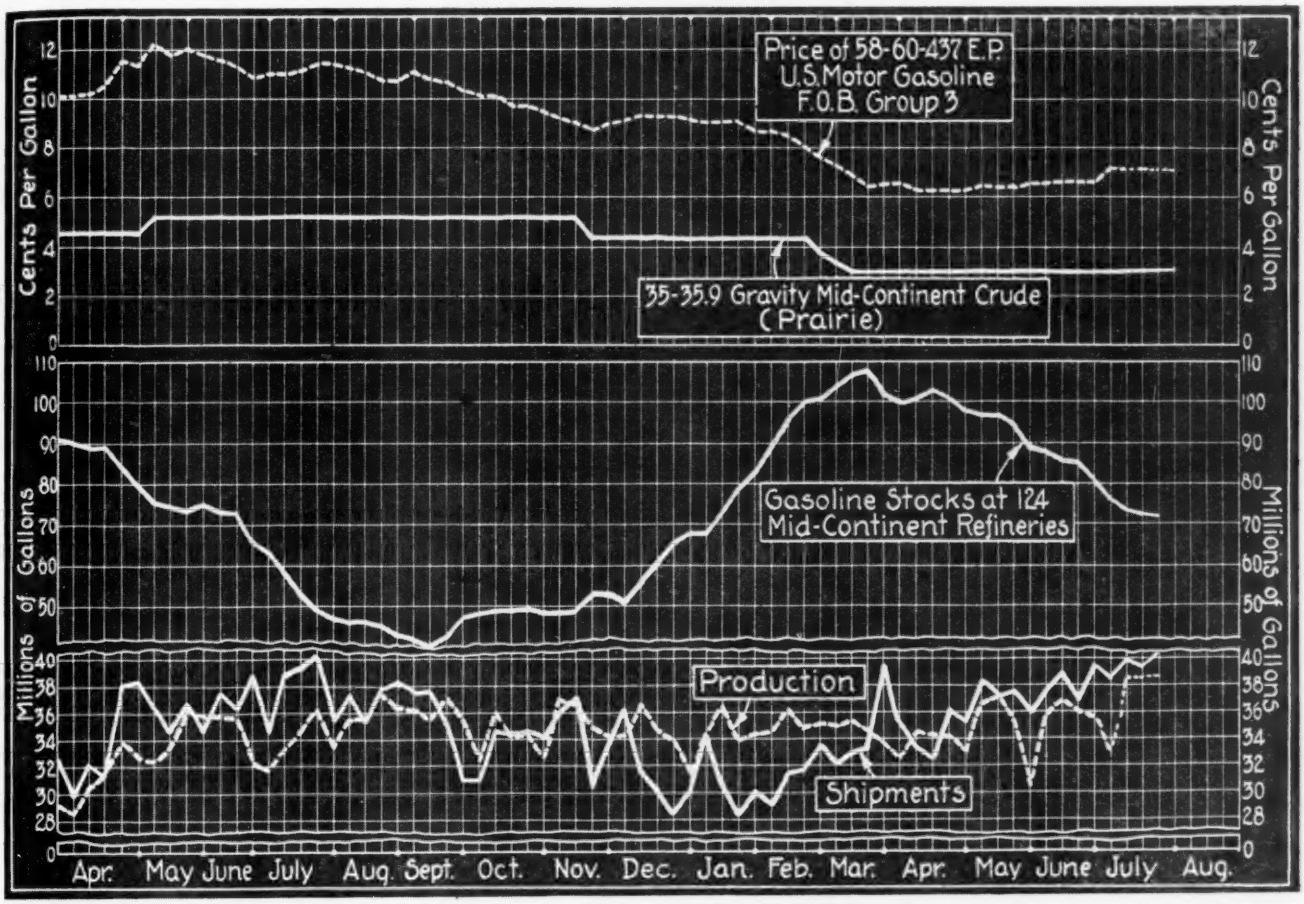
Production	26,198,000
Shipments	25,296,000
Net change in stocks	+ 902,000
Ratio sales to production	96.6%

FUEL OIL

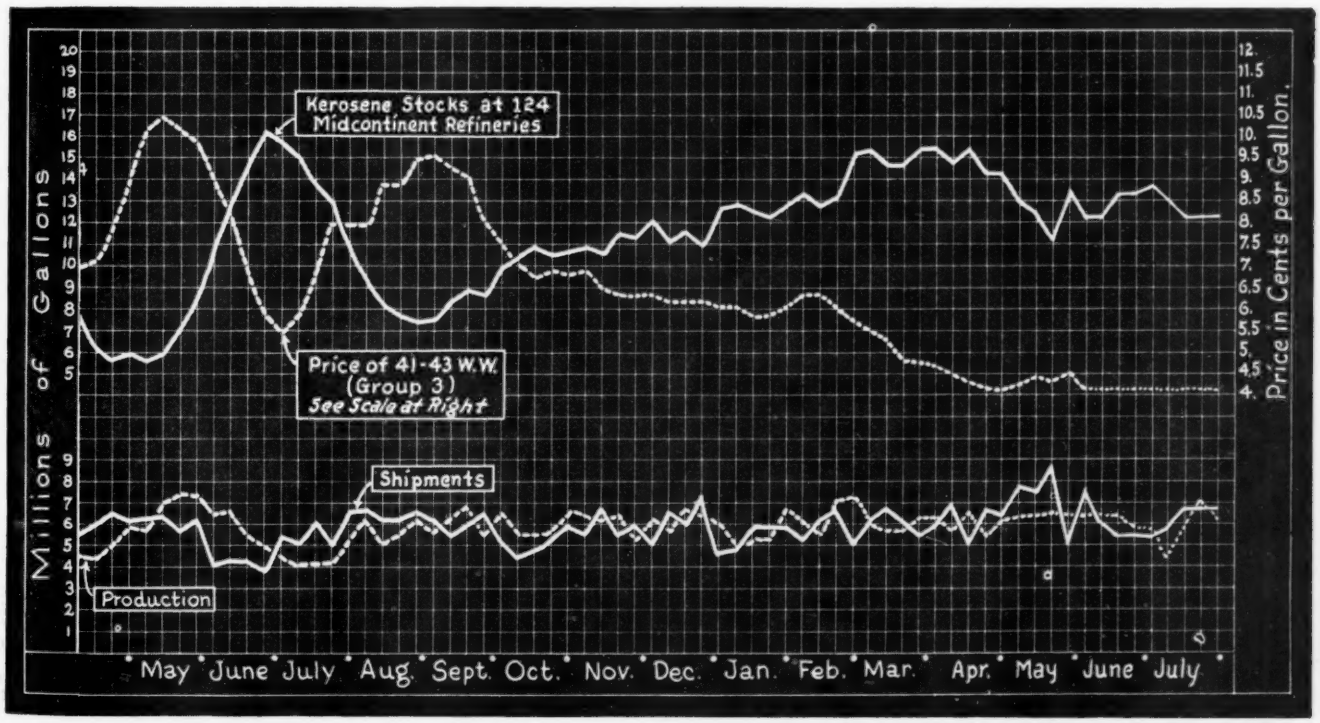
Production	117,499,000
Shipments	113,347,000
Net change in stocks	+ 4,152,000
Ratio sales to production	96.5%

Barometer of Mid-Continent Refinery Market—Week Ending July 29

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

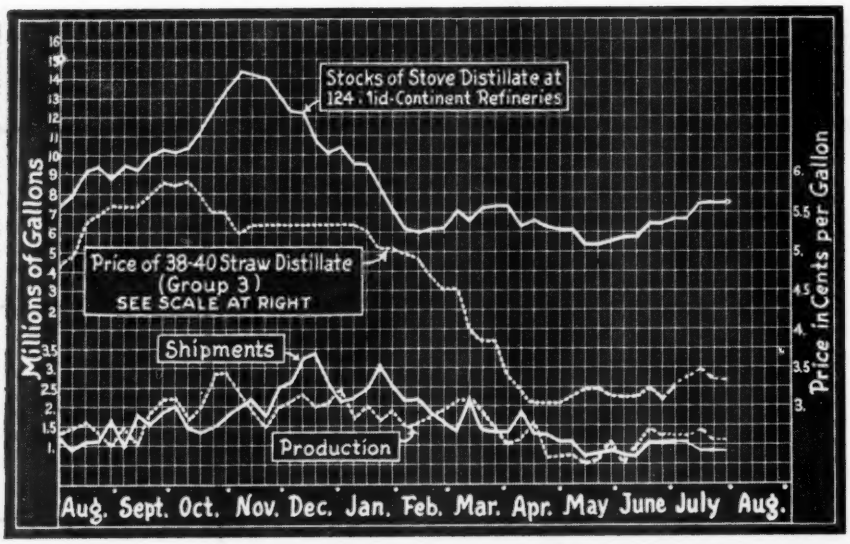

Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Cents Per Gallon
Gasoline Stocks at 124 Mid-Continent Refineries
Millions of Gallons
Production
Shipments
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug.

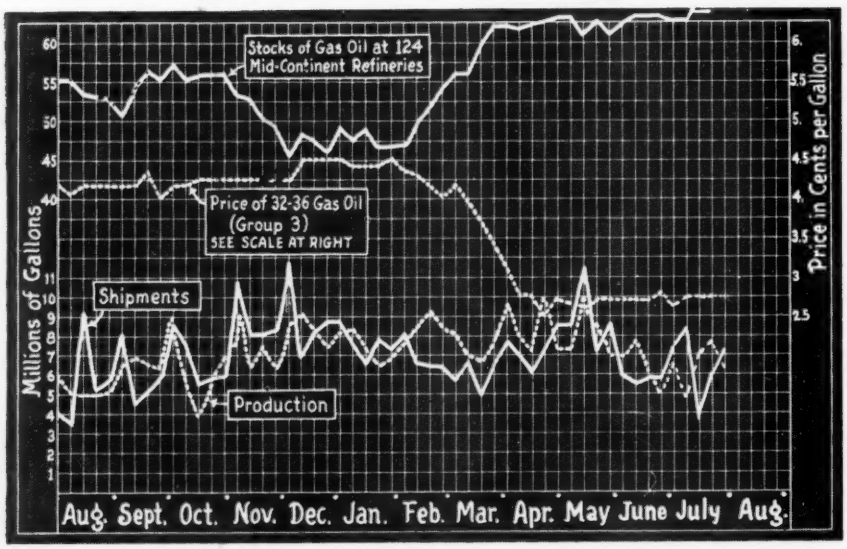
Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date shown in table on opposite page.

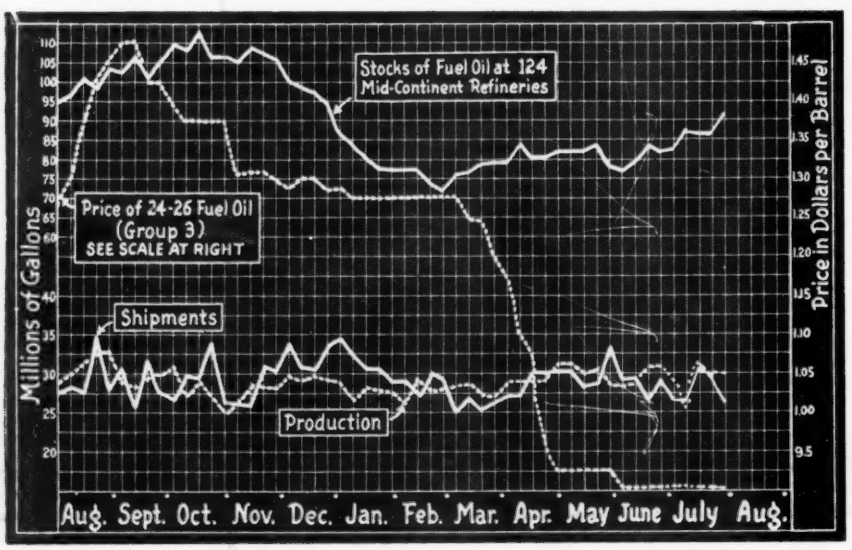

Kerosene Stocks at 124 Midcontinent Refineries
Price of 41-43 W.W. (Group 3) See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July

Barometer of the Mid-Continent Refinery Market

Week ending July 29


Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) SEE SCALE AT RIGHT
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug.


Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) SEE SCALE AT RIGHT
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug.


Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) SEE SCALE AT RIGHT
Shipments
Production
Millions of Gallons
Price in Dollars per Barrel
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug.

early in June. Runs of partly refined oils were reduced 4500 barrels a day to an average of 10,701 barrels.

With the exception of Kansas all groups in the Mid-Continent increased crude charges and decreased charges of partly refined oils. Kansas refiners cut their daily average runs 4000 barrels to 62,854 barrels. Oklahoma refiners reported an increase of 5600 barrels daily average to 118,791 barrels. North Texas' increase was 4500 barrels to 70,637 barrels a day. In North Louisiana and Arkansas the increase was 2700 barrels to an average of 47,287 barrels.

Shipments of gasoline from all reporting plants increased a little over 1,000,000 gallons to 40,715,000 gallons. Production was increased only slightly to 38,562,000 gallons.

Demand for kerosene continued to be satisfactory, shipments totaling 6 856,000 gallons, compared with 6,878,000 gallons the preceding week. Production was 6,789,000 gallons permitting a reduction in stocks of 67,000 gallons to 12,371,000 gallons. With the exception of north Louisiana and Arkansas all reporting groups showed kerosene business to be a little ahead of production. In the last four weeks kerosene stocks have been reduced 1,533,000 gallons in the field.

Stove distillate continued to pile up gradually except in Kansas. Shipments from the field totaled 917,000 gallons. Production was 1,229,000 gallons, causing stocks to increase 300,000 gallons to 7,890,000 gallons.

Oklahoma refiners reported a large movement of gas oil, reducing stocks. All other groups increased stocks. Oklahoma shipments of 3,061,000 gallons were almost double the production of refineries in that state and stocks were cut 1,500,000 gallons.

Because of increases in other states, gas oil stocks at the 124 plants were reduced only 300,000 gallons to 70,458,000 gallons.

Fuel oil demand fell, causing shipments to fall 3,800,000 gallons or 12.6 per cent. Shipments were 26,055,000 gallons. Production was increased 1,600,000 gallons or 5.4 per cent to 31,203,000 gallons, causing stocks to increase 5,000,000 gallons or 6 per cent to 91,521,000 gallons. Louisiana and Arkansas refiners reported an increase in fuel business and a reduction in stocks but all other groups showed lower shipments and increased stocks.

WASHINGTON, July 30. — The United Public Health Service is making a survey to determine the amount of pollution caused by carbon monoxide gas from automobile exhaust pipes in busy sections of 14 of the largest cities. Samples of the air have been taken for analysis. The results will not be announced for several months.

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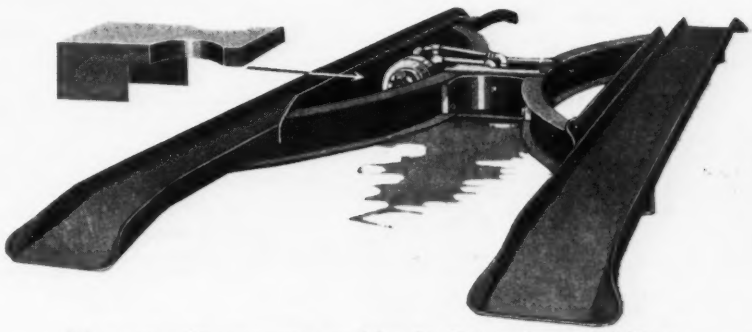
The OILDRAULIC Revolving LIFT is the Lift you have been waiting for. You want to know all about it and we are waiting to tell you. Just shoot the accompanying coupon in for specification sheet. You won't be obligated.



Lift at rest. Note compact provision for Rotary Pump and Motor. A space saver. No Pit—No underground pipes. Hydraulic oil operated. No compressor—No gears to strip or freeze. Maximum height 54". Holds safely at any height. Exclusive approach apron on Channel Irons. Weight capacity 7500 lbs. with 25% overload. A boy can operate it.

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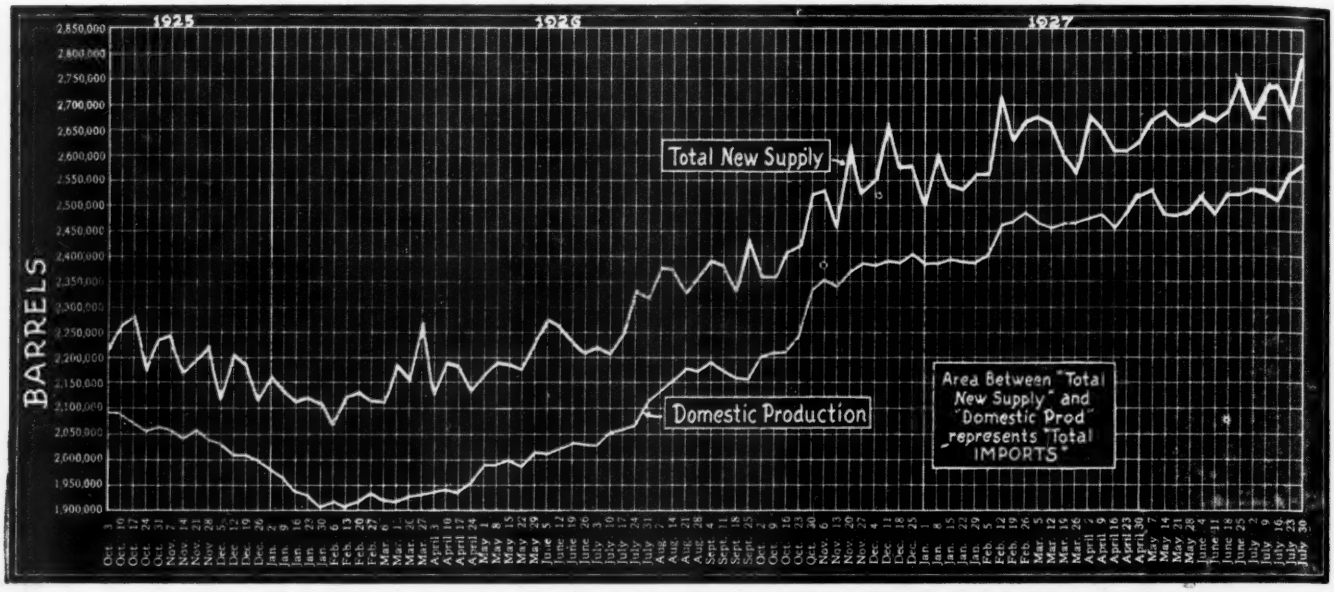
Standard Service Equipment

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by Americ an Petroleum Institute

Production Summary

	July 30	July 23
Production east of Rockies	1,971,600	1,953,150
Increase		18,450
Total Production in U. S.	2,586,100	2,573,850
Increase		12,250
Crude Oil Imports	213,429	106,000
Increase		107,429
Total Crude Supply	2,799,529	2,679,850
Increase		119,679

OKLAHOMA

	July 30	July 23
North Braman	3,300	3,250
South Braman	3,100	3,150
Blackwell	3,500	3,700
Hubbard	5,350	5,400
Thomas	4,800	4,850
Tonkawa	20,300	20,100
Garber	11,550	11,600
Burbank	39,850	40,000
Osage, outside Burbank	30,850	30,450
Watchorn	1,800	1,850
Cushing	21,450	21,450
Yale Jennings	10,100	10,350
Davenport	3,000	2,950
Bristow-Slick	25,700	26,300
North Okmulgee	16,600	16,700
Lyons-Deaner	5,150	5,200
Stroud	1,250	1,200
Cromwell	12,500	12,450
Papoose	6,600	6,800
Wewoka	19,750	19,800
Seminole	321,550	325,500
Earlsboro	192,400	168,350
Duncan district	7,000	6,850
Graham	6,900	6,850
Fox	1,850	1,850
Healdton	14,900	14,900
Hewitt	9,900	9,850
Scholem Alecham	16,600	16,400
Others	67,650	67,400
Total, Oklahoma	885,250	865,500
Increase		19,750

KANSAS

	July 30	July 23
Greenwood County	34,350	34,600
Florence-Covert	1,650	1,800
Peabody-Elbing	3,850	3,700
Eldorado-Towanda	13,800	13,600
Augusta-Fox-Bush	4,350	4,450
Rainbow Bend	2,250	2,250
Russell	2,650	2,700
Churchill	15,350	15,950
Others	28,100	28,300
Total, Kansas	106,350	107,350
Decrease		1,000

NORTH LOUISIANA

	July 30	July 23
Homer	4,950	4,950
Haynesville	7,500	7,500
Caddo, light	16,950	17,200
Caddo, heavy	5,400	5,700
De Soto, Red River	4,000	4,250
Elm Grove	650	700
Bellevue	1,400	1,400
Cotton Valley	5,500	5,500
Urania	9,650	9,700
Pleasant Hill	1,150	1,000
Total, North Louisiana	57,150	57,900
Decrease		750

ARKANSAS

	July 30	July 23
El Dorado	5,850	5,850
Smackover, light	10,700	10,950
Smackover, heavy	85,150	86,100
Stephens	1,350	1,350
Nevada	1,650	1,600
Lisbon	3,600	3,600
Others	100	100
Total, Arkansas	108,400	109,550
Decrease		1,150

TEXAS (OUTSIDE GULF COAST)

Panhandle District

	July 30	July 23
Hutchinson County	86,800	91,100
Carson County	10,050	10,200
Gray County	9,450	9,650
Wheeler County	2,400	2,700
Others	150	150
Total, Panhandle District	108,850	113,800
Decrease		4,950

North Texas

	July 30	July 23
Burkburnett	13,700	13,950
Electra	12,950	13,350
Iowa Park and K-M-A	2,650	2,700
Wilbarger	13,200	13,150
Archer County	27,750	28,500
Montague-Cooke	16,000	15,050
Others	750	750
Total, North Texas	87,000	87,450
Decrease		450

West Central Texas

	July 30	July 23
Stephens County	8,900	8,950
Eastland-Desdemona	8,500	8,550
Brown County	25,100	25,000
Coleman County	1,050	1,000
Callahan County	3,600	3,500
Shackleford County	7,600	7,800
Young County	10,800	8,950
Throckmorton County	1,900	1,950
Palo Pinto County	900	950
Others	1,300	1,350
Total, West Central Texas	69,650	68,000
Increase		1,650

West Texas

	July 30	July 23
Jones County	1,950	2,000
Mitchell and Scurry Counties	3,650	3,650
Howard County	3,300	3,100
Reagan County	25,300	25,450
Crane and Upton Counties	97,400	102,150
Crockett County	1,100	1,450
Pecos County	4,750	4,600
Others	2,650	2,050
Total, West Texas	140,100	144,450
Decrease		4,350

East Central Texas

	July 30	July 23
Mexia	9,800	9,850
Currie	500	500
Richland	1,100	1,150
Wortham	3,150	3,150
Corsicana-Powell	15,400	15,500
Nigger Creek	3,100	3,150
Total, East Central Texas	33,050	33,300
Decrease		250

Southwest Texas

	July 30	July 23
Luling	16,500	16,650
Lytton Springs	1,900	2,000
Somerset	1,000	1,000
Laredo District	11,500	11,750
Piedras Pintas	50	50
Others	600	600
Total, Southwest Texas	31,550	32,050
Decrease		500
Total, Texas (Outside Gulf Coast)	470,200	*479,050
Decrease		8,850

*Revised.

GULF COAST

Coastal Texas

	July 30	July 23
West Columbia	8,650	9,050
Damon Mound	950	950
Big Creek	3,200	3,100
Boling	2,000	2,000
Blue Ridge	3,800	4,300
Pierce Junction	5,500	7,000
Humble	3,050	3,000
Goose Creek	8,150	7,950
South Liberty	2,850	2,850
Hull	15,050	15,050
Saratoga	1,200	1,200
Batson	1,300	1,300
Sour Lake	4,250	4,000
Spindletop	54,200	53,900
Orange County	5,000	5,100
Others	4,150	4,200
Total Coastal Texas	123,300	124,950
Decrease		1,650

Coastal Louisiana

	July 30	July 23
Vinton	5,950	4,650
Lockport	4,800	7,000
Evangeline	1,200	1,200
Edgerly	1,150	700
Others	1,050	1,000
Total, Coastal Louisiana	14,150	14,550
Decrease		400
Total, Gulf Coast	137,450	139,500
Decrease		2,050

ROCKY MOUNTAIN

Wyoming

	July 30	July 23
Salt Creek	47,900	37,500
Grass Creek	2,650	2,750

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Some call him "hard boiled" others admit he's wise. He is the man who buys oil by the quart and occasionally the gallon. All he wants is the oil that will give him results . . . for the right price. And if your customers do not sell him the oil he wants he will go elsewhere.

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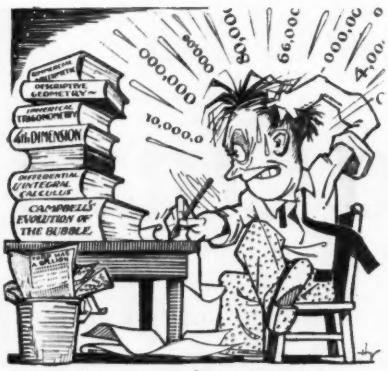
Gravity	23-25
Flash	450-460
Fire	510-520
Vis	80-90
Cold Test	10-20
Color	7-NPA
Carbon Res.	Under 2%
Emulsion	OK

HEAVY	
Gravity	23-25
Flash	490-500
Fire	565-575
Vis	120-130
Cold Test	10-20
Color	7-8 NPA
Carbon Res.	Under 2%
Emulsion	OK

Our own production of ***Ranger Paraffine Crude*** gives Blending Bright Stocks an original advantage which cannot be overcome.

TEXAS PACIFIC COAL AND OIL COMPANY

FORT WORTH, TEXAS



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Crude Production

	July 30	July 23
Elk Basin	1,050	1,000
Big Muddy	2,800	2,950
Lost Soldier	2,700	2,800
Rock River	2,750	2,800
Lance Creek	600	600
Teapot Dome	400	1,250
Others	6,150	5,100
Total, Wyoming	67,000	56,750
Increase		10,250
Montana		
Cat Creek	2,150	2,200
Sunburst	14,500	13,500
Others	100	100
Total, Montana	16,750	15,800
Increase		950
Colorado		
Moffat (Craig)	1,550	1,500
Fort Collins	3,500	3,550
Florence	1,000	900
Others	1,600	1,500
Total, Colorado	7,650	7,450
Increase		200
New Mexico		
Table Mesa	300	300
Artesia	1,700	1,700
Hogback	400	400
Rattlesnake	500	400
Total, New Mexico	2,900	2,800
Increase		100
Total, Rocky Mountain	94,300	82,800
Increase		11,500
California		
Santa Fe Springs	41,500	41,500
Long Beach	88,500	89,000
Huntington Beach	71,000	70,500
Torrance	22,000	*23,000
Dominguez	14,000	15,000
Rosecrans	9,000	9,000
Inglewood	33,000	*33,000
Midway-Sunset	89,000	89,000
Ventura Avenue	39,000	38,200
Seal Beach	55,000	60,000
Others	152,500	152,500
Total California	614,500	620,700
Decrease		6,200
Eastern		
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	112,500	111,500
Increase		1,000

*Revised.

Wisconsin Jobbers Meet In Milwaukee Next

MILWAUKEE, July 30.—A regular meeting of the Wisconsin Independent Oil Jobbers' Association will be held Wednesday, Aug. 10, at the Plankinton Hotel, Milwaukee. Directors and regional vice-presidents are arranging to assemble in Milwaukee on the afternoon of the day before and hold an executive session at 8 o'clock p. m., Aug. 9.

Among the subjects the Wisconsin jobbers have scheduled for discussion is the State Insignia. Although a good portion of the Wisconsin jobbers are members of the Independent Oil Men of America and use the Spread Red Eagle as an emblem, some are not members and are not entitled to use it.

The members will also discuss state legislation, new and pending in the light of its effect upon the oil business. L. V. Nicholas, is scheduled as a speaker and so is Don Montgomery of the Wisconsin department of markets who will present some thoughts about the quantity discount method of marketing which he mentioned in a recent department bulletin.

Seminole Hits Peak of 527,400 Bbls. As Operators Confer on Proration

By A. F. Hinton
N. P. N. STAFF WRITER

TULSA, July 30

SEEMINGLY as an added warning to the pondering operators as to what would happen unless something is done to curb its flow, Seminole today recorded its highest production, the four fields in the area having a combined total output of 527,400 barrels. This was an increase of more than 16,000 barrels over the preceding day, and is higher by 11,000 barrels than the last previous peak, reached July 26.

On the same day that this high production was obtained came the announcement that Seminole producers are virtually in agreement to restrict production by proration, and to hold it down to 450,000 barrels for a time. In addition, it is likely they will agree on a shut-down and pinch-in program for districts outside of the four main pools, in order that their production may be held back until conditions improve. The negotiations leading up to this agreement are told of in more detail elsewhere in this issue.

If this proration idea becomes an actuality—and the Corporation Commission is likely to order it if operators cannot agree upon it—it probably means that the Seminole district right now is at its final peak. If production actually is held down to 450,000 barrels a day for the next 60 days, it is quite possible that that figure will represent the district's maximum output at the end of that time.

It begins to appear likely that Bowlegs has about reached its peak. It now has more than 170 wells, but the last 20 completions have not served to increase its production materially. Its output got up to around 207,000 barrels 10 days ago, when it had about 150 wells. Today it produced 205,121 barrels from 172 wells. Although the original Seminole field had 196 producing wells before reaching its peak of 260,000 barrels, it is well to remember that Bowlegs is not the "high-powered" field that Seminole was in its prime. Outside of the big well in the Little River pool, which for the time being is being carried as part of Bowlegs, less than a dozen wells in the field are flowing naturally. Practically all the remaining wells are on gas-lift, and are declining more rapidly than Seminole wells did at the same period of their life. Bowlegs may make this prophecy look bad in the next few weeks—but the probabilities are that it won't.

As for Earlsboro, its peak is not in sight, and no one can be found who is brave enough to hazard a guess as to its maximum production and the date it will be reached—or would have been reached if they hadn't decided to prorate. Predictions as to Earlsboro are hazardous because the field has not been defined, is continually being extended, the wells increase their production sometimes as much as four times their initial when given a small shot, and large areas now being drilled up are due in the next few weeks to bring out more great gushers such as those that have been responsible for the field's rapid rise.

TODAY for the first time, two of the Seminole District fields are making more than 200,000 barrels each at the same time. Bowlegs maintains its lead by a slight margin, with 205,121 barrels, while Earlsboro is close behind with 204,609 barrels. Seminole continues to drop at the rate of about 5,000 barrels a week, and today was making 83,778 barrels. Searight, which is the most consistent of the four pools, is holding steady at 33,892 barrels. Its production for the past six months has averaged about 32,000 barrels a day.

Oklahoma production during the past week averaged 884,780 barrels, cording to NATIONAL PETROLEUM NEWS estimate, an increase of 19,740 barrels over the preceding week, and by that amount greater than the state's output ever was before. Oklahoma is now producing 14,000 barrels a day more than California did at its peak of 1923, and undoubtedly holds the world's record in this regard. Earlsboro was solely responsible for this week's gain, as it has been for several weeks past. This field averaged 192,340 barrels daily during the week, as compared with 168,330 barrels the week before. With Seminole declining and Bowlegs and Searight holding about unchanged, their total production averaged 321,500 barrels as against 325,460 barrels the previous week. The entire district averaged 513,840 barrels a day over the week, as compared with 493,790 barrels last week.

For the second successive week there are 16 companies with production of 10,000 barrels a day or more in the Greater Seminole district. Indian Territory Illuminating Oil Co., with 77 wells producing 77,212 barrels, increased its lead over the field, and is now 20,000 barrels ahead of the second-place Carter Oil Co. The latter has 87 wells making 57,219 barrels daily. Adding the Empire's production to that of the I. T. I. O. gives a total of 88,109 barrels daily for the Doherty group.

BARNSDALL OIL CO., which now has production of more than 40,000 barrels a day, 33,000 barrels of which are coming from Earlsboro, surprised everybody by getting a hole full of water in the Wilcox sand in its No. 1 Cudjo, in the SWc NW SW of 3-9-5. This well is a northeast offset to the Independent-Margay

(*Continued on page* 44)

Drilling Operations in Oklahoma, Kansas and Texas, Week Ended July 30, 1927

	July 30			Week Ended		July 23				
OKLAHOMA										
Burbank	0	4	5	8	17	4	2	7	8	21
Other Osage	10	7	12	6	35	8	4	16	8	36
Bristow-Cushing	7	5	54	6	72	8	3	54	8	73
North Oklahoma	5	5	48	42	100	5	7	54	36	102
South Oklahoma	15	10	133	37	195	12	12	130	35	189
Muskogee	..	4	23	16	43	..	2	31	13	46
Okmulgee-Bristow	9	41	76	20	146	9	43	71	22	145
Tonkawa	2	0	6	0	8	2	1	5	1	9
Seminole Dist.	45	51	535	39	670	35	33	548	38	654
Total Oklahoma	103	127	892	174	1296	83	107	916	169	1275
KANSAS	37	51	124	66	278	32	58	122	72	284
TEXAS										
Central	..	98	250	154	502	..	104	231	166	501
East	..	..	7	6	13	..	..	8	6	14
Panhandle	..	89	144	97	330	..	87	141	95	323
N. Central	..	41	104	30	175	..	40	103	33	176
West	..	95	154	69	318	..	84	146	59	289
Laredo	..	..	..	..	..	..	..	..	..	..
Total Texas	..	323	659	356	1338	..	315	629	359	1303
GRAND TOTAL	140	501	1675	596	2912	115	480	1667	600	2862

Seminole District Production by Companies and Leases, July 29 and July 22, 1927

Company	Farm	S. T. R.	July 29 No. Wells	July 29 Prod.	July 22 No. Wells	July 22 Prod.
		BOWLEGS				
Amerada	Rascoe	15- 8-6	8	9,760	8	10,440
Atlantic	Baker	1- 8-6	2	1,695	2	1,550
Atlantic	Fleet	23- 8-6	3	1,982	3	2,098
Atlantic	Grayson	12- 8-6	1	2,582	1	3,010
Atlantic	Jones	16- 8-6	3	320	2	240
Total Atlantic			9	6,579	8	6,898
Barnsdall	McNac	28- 8-6	1	65	1	80
Barnsdall	Murrow	11- 8-6	2	906	1	980
Total Barnsdall			3	971	2	1,060
Carter	Bowlegs	15- 8-6	2	3,295	2	3,640
Carter	Harjoche	15- 8-6	6	4,785	6	4,365
Carter	Hilly	23- 9-6	1	1,990	1	2,370
Carter	Walker	15- 8-6	2	1,700	2	1,775
Carter	Wise	23- 8-6	5	8,575	5	9,505
Total Carter			16	20,349	16	21,655
Empire	Lacey	15 -8-6	5	3,563	5	4,224
Gypsy	Brown	33- 8-6	1	92	1	90
Gypsy	Walker	15- 8-6	7	3,307	7	3,915
Total Gypsy			8	3,399	8	4,005
Independent et al	Coker	21- 8-6	1	955	1	875
I. T. I. O.	Barnett	24- 8-6	2	2,217	2	2,329
I. T. I. O.	Billington	22- 8-6	2	2,416	2	2,589
I. T. I. O.	Bowlegs	22- 8-6	5	8,926	4	4,304
I. T. I. O.	Davis	13- 8-6	3	2,938	3	2,948
I. T. I. O.	Fay	18- 8-6	1	2,463	1	2,647
I. T. I. O.	Goforth	15- 8-6	9	7,281	9	8,495
I. T. I. O.	House	1- 7-6	1	11,702	1	12,070
I. T. I. O.	Livingston	15- 8-6	10	18,317	10	17,336
I. T. I. O.	Lizzie	.....	1	748	0	0
I. T. I. O.	Walker	15- 8-6	8	7,303	8	8,390
I. T. I. O.	Wilmont	15- 8-6	4	4,696	4	5,235
I. T. I. O.	Wolf	24- 8-6	1	1,044	1	1,325
I. T. I. O.	Youngblood	24- 8-6	4	1,485	4	1,894
Total I. T. I. O.			51	71,581	49	69,560
McCulloch	Bowlegs	22- 8-6	2	887	1	1,000
Mid-Continent	Baker	10- 8-6	3	5,751	3	5,808
Mid-Continent	Hutke	24- 8-6	1	100	1	95
Mid-Continent	Bowlegs	22- 8-6	1	1,590	1	415
Total Mid-Continent			5	7,441	5	6,318
Minnehoma	Bowlegs	15- 8-6	4	4,203	4	3,332
Prairie	Gahagan	23- 8-6	2	2,205	2	2,200
Prairie	Harger	10- 8-6	6	8,055	6	8,660
Prairie	Templeton	12- 8-6	1	4,360	1	1,057
Prairie	Whitney	23- 8-6	3	750	3	780
Total Prairie			12	15,370	12	12,697
Pure	Reed	14- 8-6	14	20,429	14	21,664
Roxana	Taylor	16- 8-6	5	4,751	5	4,146
Shaffer	Lacey	14- 8-6	3	2,828	3	3,150
Sinclair	Adam	22- 8-6	1	0	1	15
Sinclair	Bowlegs	22- 8-6	1	335	1	325
Sinclair	Ellen	11- 8-6	1	1,715	1	1,740
Sinclair	Harjo	14- 8-6	3	4,475	3	5,050
Sinclair	Jones	8- 8-6	3	2,935	1	2,450
Sinclair	Taylor	10- 8-6	2	2,825	2	2,515
Sinclair	Walker	22- 8-6	3	5,260	3	5,825
Total Sinclair			12	17,545	12	17,920
Texas	Reed	14- 8-6	4	8,000	4	8,370
Tidal	Harjoche	10- 8-6	2	3,475	2	3,515
Twin State	Jones	11- 8-6	1	0	1	1,080
TOTAL BOWLEGS			170	202,037	163	201,909
		EARLSBORO				
Amerada	Anderson	15- 9-5	4	5,148	4	5,152
Amerada	Cowden	4- 9-5	4	21,300	2	20,510
Total Amerada			8	26,448	6	25,662
Barnsdall	D. Davis	11- 9-5	2	3,038	1	98
Barnsdall	Gibson	9- 9-5	5	15,947	4	11,272
Barnsdall	Hearne	15- 9-5	1	42	1	35
Barnsdall	Sabolka	15- 9-5	1	3,552	1	3,444
Barnsdall	Smith	15- 9-5	1	532	1	149
Barnsdall	Pack	10- 9-5	1	2,102	1	2,319
Barnsdall	Peter	10- 9-5	3	845	3	760
Barnsdall	Sullivan	1- 9-5	1	141	1	504
Barnsdall	Watsutka	12- 9-5	2	2,131	2	4,308
Total Barnsdall			17	28,330	15	22,885
Carter	Payne	12- 9-5	1	2,165	1	2,655
Continental	Spencer	12- 9-5	1	7,590	1	7,215
Crosbie	Bryant	9- 9-5	2	11,945	2	12,840
Empire	Edmundson	3- 9-5	1	4,928	1	5,509
Gypsy	Carter		1	620	1	865
Gypsy	Earl	16- 9-5	1	115	1	0
Gypsy	McFarland	9- 9-5	2	235	2	880
Gypsy	Noble	12- 9-5	1	3,585	1	4,023
Gypsy	Peter	10- 9-5	2	370	2	450
Gypsy	State	16- 9-5	4	1,705	4	1,650
Gypsy	Strain	17- 9-5	1	0	1	0
Total Gypsy			12	6,630	12	7,878
Independent	Knapp	8- 9-5	2	3,271	1	515
Independent	O'Dell	4- 9-5	2	10,970	2	11,955
Independent	Sullivan	10- 9-5	1	241	1	252
Total Independent			5	14,482	4	12,722
Interocean	Payne	12- 9-5	1	298	1	488
Magnolia	Bryant	9- 9-5	2	1,067	2	2,125
Magnolia	Edmundson		5	11,607	0	0
Magnolia	Holmsley	11- 9-5	1	476	3	7,768
Magnolia	Lena	10- 9-5	0	0	1	388
Magnolia	Simpson	10- 9-5	1	0	1	2,619
Magnolia	Sparks	11- 9-5	2	2,287	2	3,112
Total Magnolia			11	14,370	9	13,959
Mid-Continent	McCumber	9- 9-5	3	8,830	3	8,750
Mid-Kansas	Anderson	14- 9-5	1	1,745	1	4,450
Phillips	Dunnaway	15- 9-5	1	18	0	0
Phillips	Graham	9- 9-5	1	1,600	4	1,026
Total Phillips			2	1,618	4	1,026
Philmack	Dobbs	8- 9-5	2	0	2	0
Prairie	Baker	24- 9-5	1	50	1	50
Prairie	Davis	13- 9-5	3	6,195	2	5,285
Prairie	Graham		1	2,559	0	0
Prairie	Stidham	11- 9-5	4	8,865	3	5,650
Total Prairie			9	17,669	6	10,985
Roxana	Spencer	12- 9-5	2	6,433	2	6,130
Texas	Rodgers	5- 9-5	1	9,765	1	11,260
Twin State	Baker	12- 9-5	1	3,980	4	4,445
Twin State	Hearn		1	3,532	0	0
Tidal	Watkins	9- 9-5	2	16,910	2	6,415
Shallow Sand			22	3,150	24	3,480
TOTAL EARLSBORO			108	191,885	101	170,873
Amerada	Fixico	23- 9-5	4	1,675	4	1,668
Amerada	Killing	23- 9-6	4	429	4	459
Amerada	Rentie	23- 9-6	3	1,190	3	1,225
Total Amerada			11	3,294	11	3,351
Atlantic	N. Cudjo	26- 9-6	4	740	4	700
Barnsdall	Carter	24- 9-6	9	4,198	9	3,804
Barnsdall	Henry	14- 9-6	2	650	2	636
Barnsdall	Jones	34- 9-6	4	1,460	4	1,415
Total Barnsdall			15	6,308	15	5,855
Carter	B. Carter	24- 9-6	2	245	2	740
Carter	J. Carter	24- 9-6	3	75	3	80
Carter	F. Carter	24- 9-6	3	270	3	300
Carter	Creamer		2	90	0	0
Carter	R. Cudjo	35- 9-6	4	1,180	4	1,275
Carter	W. Cudjo	34- 9-6	2	225	2	255
Carter	Gilliland	27- 9-6	2	370	1	465
Carter	Grisso W.	23- 9-6	6	860	7	915
Carter	Knapp	13- 9-6	3	1,260	3	1,290
Carter	Killing	14 & 23- 9-6	14	13,355	14	13,610
Career	Lukes	27- 9-6	6	1,130	6	1,060
Carter	Ponder		1	195	1	230
Carter	Simpson	25- 9-6	2	275	2	295
Carter	Strother	34- 9-6	3	2,375	3	3,185
Carter	Vierson	23- 9-6	4	600	4	610
Total Carter			58	22,505	56	24,310
Empire	Gross	25- 9-6	2	1,715	2	1,807
Empire	Wilson	34- 9-6	3	673	3	700
Total Empire			5	2,388	5	2,507
Gypsy	Butler	35- 9-6	3	887	3	750
Gypsy	Carter	24- 9-6	8	1,985	8	2,040
Gypsy	Cudjo	34- 9-6	4	917	4	859
Gypsy	Fixico	26- 9-6	5	205	5	225
Gypsy	Harjo	25- 9-6	3	1,502	3	1,683
Gypsy	Wolf	26- 9-6	7	760	7	893
Total Gypsy			30	6,256	30	6,450
Independent	P. Fixico	23- 9-6	4	280	4	420
Independent	T. Fixico	26- 9-6	8	752	8	683
Independent	Harjo	25- 9-6	2	950	2	1,038
Independent	Jones	26- 9-6	4	616	4	708
Total Independent			18	2,598	18	2,849
I. T. I. O.	Bowlegs	26- 9-6	10	3,421	10	3,828
I. T. I. O.	Goodin	23- 9-6	4	543	4	641
I. T. I. O.	James	24- 9-6	4	1,011	4	1,028
I. T. I. O.	Harjo	23- 9-6	4	615	4	651
I. T. I. O.	Marcy	13- 9-6	1	0	1	0
I. T. I. O.	Reed	24- 9-6	3	41	3	38
Total I. T. I. O.			26	5,631	26	6,186
Kingwood	Johnson	22- 9-6	5	1,715	5	1,702
Magnolia	Franks	25- 9-6	4	1,224	4	1,208
Mid-Continent	Rentie	14- 9-6	9	1,740	9	1,715
Mid-Continent	Tayeche	24- 9-6	7	450	7	485
Total Mid-Continent			16	2,190	16	2,200
Mid-Kansas	Johnson	25- 9-6	1	755	1	759
Mid-Kansas	Pressley	3- 8-6	1	0	1	26
Mid-Kansas	Jacksey	3- 8-6	1	73	0	0
Total Mid-Kansas			3	848	2	785
Philmack	Butler	35- 9-6	3	3,915	3	4,155
Phillips	Strother	27- 9-6	3	95	3	667
Prairie	Gross	25- 9-6	5	90	5	65
Prairie	Mason	13- 9-6	1	843	1	1,190
Prairie	Spencer	13- 9-6	1	20	1	20
Prairie	Strother	27- 9-6	8	1,570	8	1,990
Total Prairie			15	2,523	15	3,265
Pure	Strother	26- 9-6	17	2,518	17	2,444
Pure	B. Strother	36- 9-6	4	4,261	3	3,416
Pure	C. Strother		1	110	0	0
Total Pure			22	6,889	20	5,860
Roxana	Harber	22- 9-6	2	333	2	390
Roxana	Lashley	22- 9-6	2	50	2	50
Total Roxana			4	380	4	440
Sinclair	Carter	13- 9-6	2	35	2	15
Sinclair	Cudjo-A	35- 9-6	6	1,215	6	1,660
Sinclair	Cudjo-B	25- 9-6	3	710	2	640
Sinclair	Dicey	22- 9-6	2	735	1	510
Sinclair	Fixico	23- 9-6	4	545	4	695
Total Sinclair			17	2,695	15	3,520

(*Continued on Page 44*)

What Plant Improvements Are You Contemplating?

REGARDLESS of their nature or magnitude, we will be glad to submit a complete lump sum proposal covering all phases of your program from preliminary design through to completion.

DESIGN

In the event that you require engineering services only, we are in position to furnish expert technical advice, and after making a thorough study of your particular requirements, to prepare detail drawings, specifications, etc.

EQUIPMENT

Should engineering service not be required, we will be glad to quote on furnishing f. o. b. cars equipment or materials from your designs or those of others.

ERECTION

Our field erection organization is thoroughly experienced and efficient, and our construction equipment includes tools and special rigging for the erection of plant units of every size and description,—of any design or manufacture.

The savings which we can effect in installing refinery equipment will be self-evident from our proposal.

Send us your inquiries

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The WIDDELL ENGINEERING CO.

CONSULTING ENGINEERS

ARTHUR G. McKEE & CO.

ENGINEERS & CONTRACTORS

2422 EUCLID AVE CLEVELAND, OHIO

PIPE STILLS	FRACTIONATING TOWERS	ECONOMIZERS and HEAT EXCHANGERS
SHELL STILLS	TREATING PLANTS	FILTER HOUSES
WAX PLANTS	BOILER and POWER PLANTS	PIPING and EQUIPMENT INSTALLATIONS

Seminole District Production by Companies and Leases, July 29 and July 22, 1927

(*Continued from Page 42*)

Company	Farm	S. T. R.	July 29 No. Wells	July 29 Prod.	July 22 No. Wells	July 22 Prod.
Slick	Cudjo	35- 9-6	3	1,185	3	1,155
Slick	Franks	35- 9-6	8	1,563	8	1,130
Slick	Giblet	35- 9-6	1	1,417	1	1,536
Total Slick			12	4,163	12	3,821
Superior	Cudjo	35- 9-6	4	934	4	1,392
Texas	Mayhue	14- 9-6	1	295	1	290
Texas	Strothers	2- 8-6	1	140	0	0
Tidal	Carter	24- 9-6	5	1,150	5	2,040
Tidal	Fixico	26- 9-6	8	515	8	825
Tidal	D. Harjo	25- 9-6	1	1,280	1	1,405
Tidal	T. Harjo	23- 9-6	6	230	6	234
Tidal	Mahardy	24- 9-6	3	990	3	1,045
Tidal	Tayeche	25- 9-6	2	120	2	945
Total Tidal			25	3,295	25	6,494
Turman	Cudjo	35- 9-6	4	794	4	740
Turman	Grisso	35- 9-6	1	325	1	356
Turman	Jones	34- 9-6	4	1,536	4	1,546
Total Turman			9	2,655	9	2,642
TOTAL SEMINOLE PROPER			310	85,196	305	90,160
SEARIGHT						
Carter	Davis	4- 9-6	5	5,950	5	6,010
Carter	Frazier	3- 9-6	5	6,175	5	6,500
Carter	Kiker	29- 9-6	1	35	1	40
Carter	Scott	26-10-6	1	40	1	40
Total Carter			12	12,200	12	12,590
Gypsy	Cudjo	4- 9-6	2	412	2	410
Mid-Continent	Grayson	33-10-6	6	3,618	6	3,005
Mid-Continent	Saloche	33-10-6	2	1,695	2	1,725
Total Mid-Continent			8	5,725	8	4,730
Prairie	Cannon	33-10-6	1	15	1	10
Prairie	Carter	10- 9-6	1	10	1	10
Prairie	Houck	30-10-6	1	10	1	10
Prairie	Kinkade	33-10-6	8	2,245	8	2,480
Prairie	Wiener	22-10-6	1	15	1	20
Total Prairie			12	2,295	12	2,530
Pure	Aldridge	3- 9-6	2	4,956	2	4,609
Roxana	Strother	3- 9-6	1	1,542	1	1,894
Sinclair	Polly	3- 9-6	2	2,120	2	2,410
Twin State	Cudjo	4- 9-6	1	970	1	1,052
Wilcox	Chupco	4- 9-6	2	2,419	2	2,120
TOTAL SEARIGHT			42	32,227	42	32,345
GRAND TOTAL SEMINOLE DISTRICT			630	511,345	611	495,287

	Wells	Production	Avg. Per Well
Hunton Lime	57	8,000	140.3
Shallow Sand	23	3,110	135.2
Wilcox Sand	550	500,235	909.5

Completions in N. E. Central, West, Panhandle and North Texas, Week Ended July 30, 1927

NORTH & EAST CENTRAL TEXAS

Company	Well Farm	Location Survey	Depth	Init. Prod.
Brown County				
Bradstreet	9-Stuart	Smith	1155-1163	45
Selby	4-Ellis	SA&MG	1328-1334	275
Selby	6-Ellis	SA&MG	1323-1329	15
Gibson	20-Shore	Ryan	1265-1270	25
Texas	60-Shore	Ryan	1291-1316	90
I. H. O. & R	1-Byler	T&NO	1300-1303	91
Beal et al	1-Cavill	H&TB	1288-1293	50
Hurley	1-Davis	Kerr	T.D. 1704	Dry
Haynes	1-Nunn	Crenshaw	T.D. 806	Dry
Grader	1-Ratliff	Roberts	T.D. 1605	Dry
Texas	73-Shore	Ryan	T.D. 1276	Dry
Wentz	1-Andrews	Bannister	T.D. 1410	Dry
Callahan County				
Beams-Kingwood	2-Jackson	ET	885-892	8
Brannon et al	2-Bennett	Bothe	T.D. 1717	Dry
Heyman et al	1-Balker	BBB&C	T.D. 1200	Dry
Coleman County				
Douglas	3-Weaver	Foley	T.D. 2005	Dry
Culberson Bros.	2-Gray		2475-2488	30
Eastland County				
Root et al	2-Watson	H&TC	2745-2747	960
Kokomo	1-Collins	H&TC	2916-2960	80
Cranfill et al	2-Spencer	H&TC	2990-3057	40
Cranfill et al	3-Spencer	H&TC	3004-3060	30
States	5-Summerall	H&TC	T.D. 3570	Dry
Fisher County				
Davis et al	1-Howe	TP	T.D. 2974	Dry
Nolan County				
Malone-Weatley	1-Berry	TP	T.D. 3511	Dry
Reynolds et al	1-Annen	TP	T.D. 3511	Dry
Shackleford County				
Sinclair	1-Nail	ET	T.D. 1335	Dry
Wentz	4-Procter	ET	T.D. 2200	Dry
Humble	2-Davis	T&P	T.D. 2075	Dry
Morton et al	3-Davis	TP	T.D. 1714	Dry
Albany	5-Reynolds	T&P	1247-1270	50
Taylor County				
Humble	1-Jacobs	Nabor	T.D. 2868	Dry
Young County				
West et al	1-Burnett	T&P	T.D. 4850	

WEST TEXAS

Company	Well Farm	Location Survey	Depth	Init. Prod.
Archer County				
Gulf	5-Wilson	SP	1545-1546	27
Naer et al	12-Wilson	DLC	1526-1539	126
Roxana et al	1-Abercrombie	Harris	1373-1383	34
Rayzor-Sinclair	1-Wilson	ATNC	T.D. 1515	Dry
Continental et al	1-Wilson	ATNC	T.D. 1505	Dry
Long	1-Andrews	Carson	T.D. 1555	Dry
Silkwood et al	1-Prideaux	Rohus	T.D. 635	Dry
Clay County				
Allday et al	1-Stine	Parker	T.D. 1819	Dry
Cook County				
Abernathy et al	1-Sellers	Randolph	T.D. 3000	Dry
Pet. Investment	1-Hies et al	Nail	T.D. 1642	Dry
Roxana	1-Dennis	Hutchinson	1437-1447	212
Roxana	2-Walterschied	Littleton	1692-1702	230
Ruwalt et al	2-Koelzer	Scott	1337-1387	35
Montague County				
Continental	3-Crew	Chamblis	816-823	18
Lesh-McCall	2-Cunningham	Newton	T.D. 2343	Dry
Beckner	1-Crump	Holmes	T.D. 1501	Dry
Wichita County				
Ridgeway et al	2-Huddleston	H&CN	T.D. 1944	Dry
Warren et al	1-Perkins	DS&F	T.D. 1854	Dry
Hammond	1-Ferguson	DLC	T.D. 818	Dry
Dunkin-White	1-Mitschke	DCSL	T.D. 755	Dry
Young County				
Roberts et al	1-Graham	TEL	T.D. 975	Dry
Rhader-Carey	1-Cope	TEL	T.D. 1000	Dry
Holbrood-Woods	1-Stewart	TEL	T.D. 895	Dry
Christi-Maddox	1-Hawkins	TEL	T.D. 1096	Dry
Hamilton et al	1-Robinson	TEL	T.D. 1002	Dry

PANHANDLE

Company	Well Farm	Location Survey	Depth	Init. Prod.
Carson County				
Marland	3-Jordan	IGN	3144-3155	15
Magnolia	3-Magnolia	I&GN	2785-3165	187
McMan	2-Noel	I&GN	3171-3215	250
Gray County				
Empire	1-Meers	I&GN	3110-3150	56
Sun	1-Worley et al	I&GN	T.D. 2880	Dry
Hutchinson County				
Alamose	1-Sanford	I&GN	2983-2996	55
McMillan	1-Sanford	I&GN	2981-3021	350
Phillips	31-Coble et al	M&C	2971-2975	300
Phillips	5-Williams et al	Whitley	2932-2945	230
Texoco	1-Smith	M&C	2745-2916	130
Dixon Creek	1-Smith	M&C	3015-3025	80
Guynn-McKnight	3-Cockrell	M&C	2903-3017	50
Coble	1-Lewis	BS&F	9240-3165 6M	10
Moore County				
Morton et al	1-Reeder	T&NC	3373-3424	155
Wheeler County				
American	1-Carlton	H&GN	2027-2100	10M

WEST TEXAS

Company	Well Farm	Location Survey	Depth	Init. Prod.
Crane County				
Cromwell et al	11-Univ.	Univ.	2782-2813	1634
Landreth	8-Cowden et al	Blk	2820-2953	1200
Jeff Davis County				
Humble	1-Flores	T&P	T.D. 370	Dry
Pecos County				
Droppleman	1-Hershenson	T&P	T.D. 3802	Dry
Upton County				
Simms	1-Clark Est	GC&SF	T.D. 2501	Dry
Dixie	26-Burleson	Nidiver	2165-2245	120
Gulf	2-Lane	GC&SF	1957-1964	2250
Tidal	1-Burleson	Nidiver	1965-2042	100
Ward County				
Marland	1-Seeley	GMMB	T.D. 3506	Dry
Winkler County				
Skelly	1-Leaman	PSL	T.D. 5204	Dry

(*Continued from page* 41)

well on the O'Dell farm, which made 14,700 barrels at its peak and is still making around 10,000 barrels a day. The Barnsdall well got the Wilcox at 4350 feet and was five feet in at last reports.

Barnsdall got a good well in its No. 2 Davis during the week. This well, in the SEc NW SE of 11-9-5, is in the Wilcox sand from 4362 to 4380 feet, and flowed 3,360 barrels initial.

Completions in Oklahoma and Kansas, Week Ended July 30, 1927

Company	Well No.	Location	Depth	Init. Prod.
OKLAHOMA				
Caddo County				
Lafayette	2	SEc SE SE 21 3 5 W	1774 1780	42 M
Creek County				
Roxana	2	NWc NE SE 18 19-9 E	2195-2230	20
Regal	17	NEc SW SW 13-18-11 E	1425-1558	15
Tibbens	2	SWc SE NW 29-15-9 E	900- 902	32M
Rolland	1	SEc NE SE 29-16-9 E	T.D. 1480	Dry
Grady County				
Carter	5	SWc SE NE 34-3-5 W	T.D. 2590	Dry
Carter	2	SWc SE SE 21-3-5 W	1774-1780	42M
Grant County				
Comar	1	SWc NE 21-29-1 W	3343-3364	320 OWD
Hughes County				
Carter	5	SWc NE NE 19-8-10 E	3271-3275	525
Kay County				
Junction	[illegible]	C SW SE 30-29-1 E	3377-3387	3 OWD
Comar	[illegible]	NWc SE 19-27-1 W	3762-1815	47 M
Atlas Glass Co	[illegible]	NEc SW SW NE 28-27-1 E	761-788	1½ M
Lincoln County				
Morgan-Flynn	[illegible]	NEc 11-16-5 E	T.D. 4110	Dry
Muskogee County				
Fee	6	CSL SW SW 35-15-15 E	T.D. 2074	Dry
Ford	1	SEc SW NW 23-15-17 E	T.D. 1335	Dry
Bradley	7	CNL SW SW SW 5-14-19 E	728- 736	40
Notzger	5	SEc NE NE SE 6-14-19 E	726- 764	15
Okfuskee County				
Champlin	6	NEc 22-11-11 E	3486-3531	263
Gibson et al	1	SWc NE 4-10-9 E	T.D. 3345	Dry
Okmulgee County				
Jordan et al	2	C NE NE 27-15-12 E	T.D. 2227	Dry
Hyer	1	SEc NW SW 16-15-14 E	T.D. 1975	Dry
Brownlee-Martin	1	NEc SE SE 34-14-12 E	1935-1952	6
Shelton	2	SWc SE 15-13-13 E	2875-2889	80
Kirkland et al	4	SEc NE NE SW 17-15-13 E	1352-1372	10
The Texas	14	CSL SW SE 16-15-14 E	2339-2350	40 OWD
Lambert	1	C SE NE 30-13-15 E	775- 840	¼ m
Columbus	8	C SW NW 28-13-14 E	1588-1640	20¼M
Osage County				
Fitzstevens	1	SEc SW 16-28-8 E	2394-2405	30
I.T.I.O.	368	NEc SW 22-27-11 E	1850-1872	7½M
Kewanee	1	NWc NE 3-26-6 E	2757-2835	700
I.T.I.O.	227	SWc NE 1-25-11 E	1830-1852	1M OWD
I.T.I.O.	365	SWc SE NE NW 1-25-11 E	1751-1796	7M
Okla- Nat'l	771	SEc NE SE 33-22-11 E	1116-1120	1M
Tidal	1	NEc SW 32-29-9 E	T.D. 1650	Dry
Brown	1	SEc NE 20-27-7 E	T.D. 2918	Dry
Phillips	8	NEc SE SW 20-26-6 E	T.D. 3006	Dry
Pawnee County				
Privett	1	SEc NE SE 28-21-6 E	T.D. 3091	Dry
Payne County				
Marland	4	NEc NW SE 7-18-5 E	2945-2959	10
Pottawatomie County				
Amerada	2	SWc SE SW 4-9-5 E	4400-4415	3040
Texas	1	SEc 5-9-5 E	4353-4373	12,292
Amerada	1	NEc NW SE 24-8-4 E	T.D. 4307	53
Continental	1	SWc NE SW 19-7-4 E	3775-3945	1315
Pure	4	SWc NW NW 30-7-4 E	3838-3912	419
Seminole County				
Central Nat'l	4	SWc NW SE 4-10-8 E	T.D. 4294	Dry
Amerada	8	SEc SW NW 15-9-5 E	T.D. 4335	Dry
Barnsdall	1	SEc NW 31-9-6 E	T.D. 4325	Dry
Empire	3	NWc NE 34-9-6 E	T.D. 4338	Dry
McCullough	4	SEc NE 35-9-6 E	T.D. 4625	Dry
Marland	1	NEc SW SE 16-8-6 E	T.D. 4180	Dry
Empire	1	SW NE SE 7-8-7 E	T.D. 4339	Dry
Barnsdall	4	SWc SE SE 10-9-5 E	4382-4392	2808
Barnsdall	3	NEc SE SW 10-9-5 E	4308-4322	150
Gypsy	2	SEc NW 11-9-5 E	4360-4374	1440
Magnolia	3	CNL SE SE 11-9-5 E	4280-4288	3380
Continental	2	SWc SE NW 12-9-5 E	4242-4274	9561
Carter	3	NEc NW NW 3-9-6 E	3736-3743	35M
Carter	6	SEc NE NW 3-9-6 E	4393-4424	735
Barnsdall	2	SWc 14-9-6 E	4038-4086	1082
Carter	1	NEc SE SE 34-9-6 E	4100-4250	275
Sinclair	6	SEc NW NW 35-9-6 E	4180-4226	130
Tidal	2	NEc SW 10-8-6 E	4050-4068	2100
Texas	4	NEc SW SE 14-8-6 E	4174-4219	3850
Gypsy	8	SEc NW SW 15-8-6 E	4390-4408	645
I.T.I.O.	5	NEc NW 15-8-6 E	3903-4010	3319
I.T.I.O.	11	NEc NW NW 15-8-6 E	4150-4173	1759
I.T.I.O.	1	SEc NW 15-8-6 E	4077-4242	635 OWD
I.T.I.O.	4	SEc NE NE 15-8-6 E	4174-4205	1291
Pure	1	E SEc SW NE 16-8-6 E	4078-4082	25
I.T.I.O.	6	SEc NW NE 22-8-6 E	T.S. 4303	2151
Mid-Continent	1	NEc SW 22-8-6 E	4245-4283	450
Sinclair	4	SWc NE NE 22-8-6 E	4158-4195	2475
I.T.I.O.	1	NWc SW NW 24-8-6 E	4434-4440	796
I.T.I.O.	2	SWc NW 24-8-6 E	4395-4404	1775
Gypsy	1	NEc NW 22-8-8 E	T.S. 3306	40M
Shaffer	11	SEc NW NW 32-8-8 E	4225-4241	2160
Prairie	3	NWc NW NW 13-9-5 E	T.D. 4303	6,940
Prairie	7	NWc SW SW 10-8-6 E	3960-4008	1500
Tulsa County				
Butler et al	1	SEc NW SE 32-17-14 E	1363-1367	9M
McCullough	2	SWc SW SW SE 34-17-13 E	T.D. 2715	Dry
Wagoner County				
Towner et all	4	CNL NW NE 1-17-17 E	T.D. 260	Dry
KANSAS				
Butler County				
Connell et al	1	C SE SW 3-26-4 E	2425-2454	25
Tidal	3	SWc SE SE 17-26-8 E	2721-2182	5
Magnolia	3	SWc 34-27-6 E	3086-3094	12
Phillips	4	NWc NE 23-27-7 E	2644-2717	45
Tobin et al	1	NWc SE 12-29-6 E	T.D. 3185	Dry OWD
Coffey County				
Fidelity	1	NEc NW 14-23-16 E	T.D. 1255	Dry
Cowley County				
McNabb et al	3	22-32-4 E	2322-2352	120
Elk County				
Theta	2	SEc 27-31-10 E	2286-2288	196 OWD
Union	12	SEc SW 14-31-10 E	1641-1653	65
Union	13	SWc SE SW 14-31-10 E	1634-1655	50
Pure	13	NWc SW 13-31-10 E	1628-1718	5
Ellis County				
Day et al	1	SWc NE NE 14-14-16 W	T.D. 3526	Dry
Greenwood County				
Basom et al	1	SWc SE NE 6-23-10 E	T.D. 2631	Dry
Callahan et al	1	NEc SW 11-25-11 E	T.D. 1860	Dry
Marion County				
Skow Bros. et al	1	C NE SW 4-17-4 E	T.D. 2612	Dry
Lyon County				
Jackson-Wise	3	NWc SE NW 25-21-10 E	2466-2574	40
Sumner County				
Carter	1	SWc 8-31-3 W	T.D. 4552	Dry
Marland	1	NEc NW SE 18-35-1 E	T.D. 2665	Dry
Woodson County				
Curtis et al	1	NEc NW 27-25-14 E	T.D. 1460	Dry

Completions in North Louisiana and Arkansas, Week Ended July 30, 1927

Company	Well	Location	Depth	Yield
Louisiana—Caddo Parish—Caddo District				
Dixie Oil Co. (Standard of Ind.)	Clark et al No. 8	14-21-15	3800	1000 bbls. 20m gas
Caddo Parish—Blanchard				
State Line O. & G. Co.	Thigpen-Herold No. 3	26-18-16	910	12m gas
Winn Parish—Sikes				
Ohio Oil Co.	McCarty No. 1	5-12-1W	2642	97,000 ft. gas
Arkansas—Nevada County				
Zing et al	Moss-A-2	12-14-21	1169	125 bbls.
Stephens—Columbia County				
Autrey Oil Co.	Martin A-1	6-14-20	1169	200 bbls.
Smackover				
Ske'ly Oil Co.	Umstead A-8	33-15-15	2389	salt water, ab.
Hollyfield et al	Murphy No. 2	9-16-15	2380	60 bbls.

The same company shot its No. 2 Gibson, in the SWc NE of 9-9-5, and it started flowing at the rate of 365 barrels an hour, making 6,390 barrels in its first 18 hours. Part of this oil was lost because the flow blew off the control head and several hours elapsed before it could be replaced.

All the big gusher wells of the district are holding up well in production. The I.T.I.O. Co. discovery well in the Little River pool, in the NWc of 1-7-6, made 11,702 barrels yesterday. This well was one month old July 27 and is still making within about 2,000 barrels of it maximum output. At Earlsboro,

Summary of Seminole District Production as of July 29, 1927, by Companies having 10,000 Barrels or more Daily Production

Company	Bowlegs Wells	Bowlegs Prod.	Earlsboro Wells	Earlsboro Prod.	Seminole Wells	Seminole Prod.	Searight Wells	Searight Prod.	Total Wells	Total Prod.
1. I. T. I.	51	71,581	0	0	26	5,631	0	0	77	77,212
2. Carter	16	20,349	1	2,165	58	22,505	12	12,200	87	57,219
3. Amerada	8	9,760	8	26,448	11	3,294	0	0	27	39,502
4. Prairie	12	15,370	9	17,669	15	2,523	12	2,295	48	37,857
5. Barnsdall	3	971	17	28,330	15	6,308	0	0	35	35,609
6. Pure	14	20,429	0	0	22	6,889	2	4,956	38	32,274
7. Mid-Continent	5	7,441	3	8,830	16	2,190	8	5,725	32	24,186
8. Tidal	2	3,475	2	16,910	25	3,295	0	0	29	23,680
9. Sinclair	12	17,545	0	0	17	2,695	2	2,120	31	22,360
10. Texas	4	8,000	1	9,765	2	435	0	0	7	18,200
11. Independent	0	0	5	14,482	18	2,598	0	0	23	17,089
12. Gypsy	8	3,399	12	6,630	30	6,256	2	412	52	16,690
13. Magnolia	0	0	11	14,370	4	1,224	0	0	15	15,557
14. Roxana	5	4,751	2	6,433	4	380	1	1,542	12	13,106
15. Crosbie	0	0	2	11,945	0	0	0	0	2	11,945
16. Empire	5	3,563	1	4,928	5	2,388	0	0	11	10,879

the four wells of the Amerada Petroleum Corp. on the Cowden farm, in 4-9-5, are producing 21,300 barrels daily. Independent-Margay's two wells on the O'Dell lease, in 4-9-5, are making 10,970 barrels. The Texas Co. No. 1 Rogers, in 5-9-5, is producing 9,765 barrels daily, a decline from 11,260 barrels a week ago. Tidal Oil Co. No. 1 and 2 Watkins, in 9-9-5, which were shot during the week, are making 16,910 barrels, as compared with 6,415 barrels last week.

Kansas' deepest well was drilled in during the week, with the added distinction of producing the highest gravity crude yet found in that state, according to reports. This is Gypsy Oil Co. No. 1 Douglas, in the NEc SE NW of 23-34-2W, in southern Sumner county, about eight miles northeast of Caldwell. The well got the Wilcox sand at 4490 feet and at five feet in made as high as 235 barrels in 21 hours. Its most recent report is that it made 120 barrels, flowing by agitation. It will be placed on the swab for a thorough testing. The oil tests 45 degrees gravity at temperature corrected to 60 degrees F. The well has been drilling for 13 months.

Gulf's Third California Wildcat Finds Oil at Bakersfield

Staff Special
LOS ANGELES, July 30

THE outstanding development in oil circles in California the past week was the production test of the well drilled by the Pacific Eastern Production Co. (Gulf Oil Corp. interests) just outside the city limits of Bakersfield in Kern county, in what is known as the Union Avenue district, with the test proving the existence of a new oil field for that county.

This well was drilled to a total depth of 4392 feet after cementing a string of 8-inch at 4345 feet, thus giving the well only 47 feet of gas and oil sands. A string of 2½-inch tubing was run to 3500 feet and fitted with ⅝-inch bean, through which the gas and oil is flowing. On July 29, after connecting with a gas trap, the well was making 8,000,000 cubic feet of dry gas and spraying and flowing a head once in a while of 21.5 gravity oil. It was making only 100 to 150 barrels of oil a day. Tankage is being erected and efforts will be made in a day or so to increase the flow of oil, as the gas head goes off.

Late this week the casing pressure was 980 pounds, going as high as 1100 pounds at times, while the tubing pressure was 480 pounds, but climbing to as high as 600 pounds as the gas pressure would build up. Just a trace of mud and water was showing Friday, but the flow was fast clearing up. It is thought that when the well is properly flowed that the gravity of the oil will be slightly higher.

It is thought that the gas is coming from the upper few feet of the 47 feet of zone, while the oil probably is coming from the lower portion of the formation. The bit stopped in the oil zone, and for that reason no one knows how much oil bearing formation it is possible to penetrate. The well will be permitted to flow in its present condition and no efforts made to drill deeper for the present, although it is understood that other locations, one or more, will be made shortly.

Hoyt S. Gale is president of the Pacific Eastern Production Co., with A. E. Wallace, vice president; J. G. Leovy, secretary, and Edwin Bedford, assistant treasurer. The company was formed some months ago to take care of operations in California, with an authorized capital stock of $750,000. The stock is held by officials prominent in the direction of affairs of the Gulf Oil Corp. of Pittsburgh. For about three years, semi-wildcat acreage has been placed under lease or purchased in fee by the Gulf interests until the leases and fee owned lands in California aggregate a considerable amount, the exact total not being known.

THIS is the third drilling venture of the Gulf interests in California. The first well was drilled in Orange county near Santa Ana, and the second was on land leased in Ventura county near Camarillo where two dry holes were drilled on an 800-acre tract. The Bakersfield well is the third wildcat venture in California, and is a splendid record—success at the third attempt. Previously the Union Oil Co. held the California record for drilling wildcats, getting one producer out of eight holes drilled in wildcat territory.

Pacific Eastern holds under lease about 3000 acres just outside the southern border of Bakersfield. Since the well began to give promise of making a producer during the past three weeks, practically every important oil company operating in California has secured protection acreage, and leases have been secured on a number of city lots within the city limits, lying nearest the new well.

The structure as worked out from surface indications runs about east and west, with the opinion being expressed in some quarters that the well is located very close to the top of the structure, if not on top. There was considerable trouble in securing a water shut off, as the formation penetrated was rather soft and the cement would not hold. Finally about four feet of tough clay, or shale as some called it, was found where the last cementing job was found to be perfect.

Late this week, no locations had been made by other companies holding adjoining acreage. The well is located sufficiently far away from the property line to prevent direct offsets.

By the drilling of this producer in California the Gulf interests become directly interested in the state, thus bringing still another important oil company to the west coast from the east.

Test Seems to Indicate New California Field

LOS ANGELES, July 30.—C. C. M. Oil Co.'s Hobson 1B in the Rincon Mountains in Ventura county was drilling Saturday at 4867 feet, with casing being cemented at 4216 feet, thus giving well a total of 660 feet of oil bearing formation, very similar to that found in the Ventura Avenue field.

The gas pressure is heavier than ever and there is no doubt that the well will be real producer when it is tested. More hole is being made and cores are taken frequently.

The same company's Hobson 1A on the same tract, where a fishing and sidetracking job was going on last week, after 85 feet of drill pipe had been dropped into the hole, will probably be tested in the next few days. This well is a little better than 6500 feet deep, and about 200 feet of oil sand had been penetrated when the drill pipe was dropped. On Saturday, a 3-inch liner was being run in, in an effort to make a test.

This is expected to be the next real oil field to be proved in California.

1927 Auto Output Is Less Than 1926 Production

NEW YORK, July 30.—Automotive Industries this week said:

Automobile production in the first six months of the year ran 276,733 under the first half of 1926, all months of the first half being under corresponding months last year, with sharp drops in January, February and June. The first two months suffered from a carryover of the late 1926 output, with June totals reduced by the almost complete suspension of Ford. The total reduction in output, however, represented considerably less than one month's shipments and can easily be overcome with good business in the later year.

Auto Registrations Increase 6% U. S. Has 80% of World's Cars

CLEVELAND, July 30

AUTOMOBILE registrations in the United States July 1 totaled approximately 20,744,197, according to registrations figures compiled and estimated by Automotive Industries. This total was a gain of 1,164,329 or 6 per cent over registrations of July 1, 1926, but less than the number shown last Dec. 31. This decline from the Dec. 31 figures is due to the junking of old cars. Automotive Industries estimates that approximately 2,143,000 motor vehicles were removed from service last year, a number that appeared in the total Dec. 31.

According to a census of automobiles of the world made by the automotive division of the Department of Commerce there were approximately 27,650,267 motor vehicles in use in the world Jan. 1 1927. Of that total 22,137,344 were in the United States and only 5,512,933 in all other countries of the earth. United States' share represented about 80 per cent of the total. The world's cars, outside the United States, total a half million fewer cars than are in the states of New York, California, Illinois and Ohio.

As of July 1, there was an automobile in the United States for every 5.7 persons, according to Automotive Industries. In California there was a car for every 2.8 persons, the highest rate in the United States. Kansas was a close second with a car to every 2.9 persons. Nevada, Florida and Iowa all had a motor vehicle to less than every four persons. The lowest relative number was in Georgia where there was a car to only every 12.3 persons.

New York had registered on July 1 the most cars of any state, 1,734,600. California was second, Ohio third, Pennsylvania fifth and Michigan sixth. Michigan entered the million car class and Texas was fewer than 15,000 cars short of it.

The largest percentage gain in registrations was in Tennessee where the number was 20.7 per cent larger than on July 1, 1926. Registrations were fewer July 1, 1927, than on July, 1, 1926, in 10 states: Colorado, Kentucky, Arkansas, Oklahoma, Louisiana, Maine, Pennsylvania, Arizona, Florida and Nebraska.

In 18 states and the District of Columbia bus registrations are segregated from passenger car and truck registrations. In these 19 registration districts, 13,006 busses were listed. In the world automobile census of the Department of Commerce, it was estimated that busses totaled 80,000 in the United States last Jan. 1.

The leading state in number of bus registrations was New Jersey with 4,051. Texas was second with 2,067 and Massachusetts third with 1,271. No other state in which figures are available had as many as 1,000 bus registrations. It does not tax the imagination to believe that 80,000 is

Motor Vehicle Statistics, July 1, 1927

(Gathered by Automotive Industries)

	Cars, trucks, buses, registered July 1, 1927	Passenger cars	Trucks	Change over July 1, 1926	Persons per motor vehicle	Rank of state in registration	Gasoline taxes 6 mos.	Registration fees
Alabama	224,843	195,805	29,038	+ 5.5	11.3	28	$3,059,929	$2,364,026
Arizona	70,000	60,000	10,000	— 6.7	6.6	45	515,000	408,000
Arkansas	175,709	149,387	26,322	— 0.9	11.0	33	4,500,000	3,200,000
California	1,585,568	1,386,761	198,807	+ 8.6	2.8	2	8,600,000	7,853,944
Colorado	234,794	216,031	18,763	— 0.1	4.6	27	1,114,615	1,436,773
Connecticut	260,100	219,083	41,017	+ 9.5	6.3	23	741,786	6,174,232
Delaware	42,505	34,705	7,800	+ 6.2	5.7	48	217,405	775,699
District of Columbia	129,991	114,671	15,320	+11.5	4.2	37	1,057,850	142,685
Florida	374,757	316,284	58,473	— 8.4	3.6	18	3,020,000	5,400,000
Georgia	257,760	223,741	34,019	+ 8.6	12.3	24	2,966,714	3,476,424
Idaho	86,100	78,000	8,100	+ 0.5	6.1	41	540,214	1,287,000
Illinois	1,803,326	1,136,208	167,118	+ 7.0	5.6	4	.....	13,916,764
Indiana	744,871	641,079	103,792	+ 7.9	4.2	8	4,386,663	5,027,537
Iowa	656,903	606,638	50,265	+ 1.9	3.7	9	2,189,493	9,801,040
Kansas	454,685	406,605	48,080	+ 4.9	2.9	15	2,071,204	4,617,560
Kentucky	250,989	224,361	26,628	— 0.4	10.1	25	3,800,000	3,998,362
Louisiana	210,080	175,000	35,000	— 2.8	9.2	29	840,000	3,[illegible]38,000
Maine	129,046	109,171	19,875	— 8.0	6.2	38	825,000	2,000,000
Maryland	245,070	234,835	10,235	+ 9.4	6.5	26	2,153,199	2,548,542
Massachusetts	634,661	555,183	79,478	+ 3.2	6.7	10	.....	10,871,454
Michigan	1,040,680	900,536	140,144	+ 4.9	4.3	6	5,024,303	15,379,653
Minnesota	605,525	530,888	74,637	+ .58	4.4	14	2,600,000	9,684,992
Mississippi	198,500	179,000	19,500	+ 7.3	9.0	32	1,685,000	1,610,000
Missouri	620,000	545,000	75,000	+ 6.3	5.7	13	3,000,000	7,300,000
Montana	99,460	85,087	14,373	+ 7.9	7.2	40	427,000	1,020,380
Nebraska	286,850	263,953	22,897	—10.0	4.9	21	1,259,000	2,924,006
Nevada	21,896	17,337	4,559	+ 6.7	3.5	49	187,000	214,000
New Hampshire	86,618	76,200	10,418	+ 9.1	5.2	41	286,000	1,652,000
New Jersey	629,339	520,499	108,840	+ 9.4	6.0	12	.....	11,582,557
New Mexico	51,044	49,483	1,561	+ 9.6	7.7	46	529,636	486,053
New York	1,734,600	1,406,245	328,355	+15.2	6.6	1	.....	29,000,000
North Carolina	441,650	399,000	42,650	+12.8	6.6	16	8,120,604	6,054,820
North Dakota	145,383	133,973	11,410	+ 0.7	4.4	36	305,000	1,413,894
Ohio	1,436,939	1,276,939	160,000	+ 9.3	4.7	3	7,842,540	9,303,500
Oklahoma	423,775	384,500	39,275	— 1.4	5.6	17	2,580,000	5,600,000
Oregon	208,478	192,302	16,176	+ 6.6	4.3	30	1,621,975	5,927,727
Pennsylvania	1,264,366	1,094,653	169,713	— 4.6	7.7	5	6,000,000	22,925,010
Rhode Island	104,126	86,228	17,898	+11.4	6.8	39	253,000	1,804,790
South Carolina	174,523	157,087	17,436	+14.5	10.6	34	1,825,561	1,970,986
South Dakota	165,000	152,000	13,000	+ 3.1	4.2	35	1,000,000	2,600,000
Tennessee	269,948	245,401	24,547	+20.7	9.2	22	1,740,000	3,300,000
Texas	985,406	885,110	100,296	+ 9.0	5.5	7	4,920,695	14,650,000
Utah	84,450	72,927	11,523	+ 8.0	6.2	43	625,000	603,771
Vermont	70,172	64,876	5,276	+ 9.9	5.0	44	200,000	1,884,280
Virginia	299,924	264,052	35,872	+ 9.0	8.5	20	3,004,159	4,692,959
Washington	348,628	298,639	49,989	+ 7.4	4.5	19	1,631,226	5,684,037
West Virginia	199,459	176,797	22,662	+ 8.6	8.5	31	1,157,000	3,570,937
Wisconsin	629,582	550,358	79,224	+ 6.6	4.6	11	2,350,000	8,600,000
Wyoming	46,198	40,822	5,376	+ 4.4	5.2	47	257,211	478,330
Total	20,744,197	18,133,440	2,610,757	+ 6.0	5.7	.....	$103,030,982	$271,171,724

approximately correct. Such states as New York, Illinois, California, Florida, where a great many busses are in daily operation, do not separate bus registrations.

The Department of Commerce's census gives exporting companies an idea of the size of the foreign motor fuel and motor oil market. The United Kingdom ranks next to the United States with 1,023,651 cars or approximately as many as Michigan which ranks sixth among the states in the United States.

Other countries that had more than 100,000 cars Jan. 1 were: France 891,000; Canada 828,000; Australia 365,000; Germany 319,000; Argentina 222,000; Italy 138,000, and New Zealand 123,000.

There is some indication that automobiles may be averaging more gasoline per car this year than in past years. Although the number of cars increased only 6 per cent in the first half of this year, domestic gasoline demand in the first five months for which Bureau of Mines statistics are available, increased 11 per cent.

Continued increase in use of busses and trucks, particularly in inter-city short hauls, may account for the higher average rate of consumption. Low prices also may permit many persons to drive more than when prices were higher. Aviation is a factor than cannot be ignored. Air mail routes are being increased, more passenger routes are being established, and more people are using airplanes for business and pleasure.

Airplanes as consumers of gasoline at present are probably relatively larger factors in the motor fuel market of Europe than of the United States. Commercial aviation is further advanced in France, and Germany than in this country which has wakened only in the last few years to realization of commercial possibilities.

Auto Registration, Jan. 1, 1927

(From Department of Commerce)

Country	Passenger cars	Total automobiles
Aden	510	635
Afghanistan*	85	165
Alaska	1,153	1,734
Albania	353	433
Algeria	24,242	27,851
American Samona	20	29
Angola	700	1,452
Argentina	205,000	222,610
Australia	304,255	365,651
Austria	12,400	20,600
Azores	491	523
Bahamas	649	878
Bahrein	130	130
Barbados	1,054	1,211
Belgian Congo	825	1,575
Belgium	53,270	97,270
Bolivia	1,350	2,020
Brazil	60,800	81,100
British East Africa	5,500	7,500
British Guiana	986	1,101
British Honduras	128	162
British North Borneo*	55	70
British Oceania, other*	70	90
British Samoa	151	244
British West Africa	3,232	9,235
British Somaliland	60	79
British South West Africa	630	730
Bulgaria	1,700	2,500
Canada	734,848	828,918
Canary Islands	2,906	4,122
Ceylon	8,599	12,135
Chile	14,400	18,000
China	16,012	18,928
Chosen	1,208	1,368
Colombia	5,425	7,916
Cook Island*	45	75
Costa Rica	659	897
Cuba	28,303	38,038
Cyprus	723	865
Czechoslovakia	20,000	27,100
Danzig	1,076	1,574
Denmark	61,813	79,687
Dominica	26	30
Dominican Republic	2,275	2,830
Dutch East Indies	41,500	47,000
Dutch Guiana	110	120
Dutch West Indies	585	757
Ecuador	832	1,159
Egypt	14,842	17,740
Eritrea	95	101
Estonia	598	992
Ethiopia (Abyssinia)	100	100
Faroe Islands	12	12
Fiji Islands	619	737
Finland	12,094	17,738
France	585,000	891,000
French Guiana	66	100
French Indo-China	7,479	9,012
French Somaliland	55	61
French West Africa	2,101	3,820
Germany	218,000	319,000
Gibraltar	466	577
Gibert and Ellice Islands*	.....	2
Greece	7,054	11,222
Grenada	322	382
Guadeloupe	379	507
Guam	176	269
Guatemala	1,337	1,569
Haiti	1,764	1,974
Hawaii	23,562	31,135
Hejaz	9	9
Honduras	384	501
Hong Kong	1,184	1,579
Hungary	6,712	9,291
Iceland	355	355
India	66,217	81,925
Iraq	2,315	2,524
Irish Free State	29,331	35,647
Italian Somaliland	75	88
Italy	104,882	138,177
Jamaica	3,837	4,983
Japan	27,989	42,727
Latvia	970	1,530
Leeward Islands	193	217
Liberia	39	73
Libya	203	441
Lithuania	526	669
Madagascar	859	1,060
Madeira Islands	210	415
Malay States and Straits Settlements	19,620	23,916
Malta	956	1,208
Martinique	1,231	1,461
Mauritius	2,293	2,626
Mexico	38,110	50,476
Mocalla	56	56
Morocco, French	7,883	10,641
Morocco, Spanish	8,160	10,991
Mozambique (Portuguese East Africa)	500	608
Netherlands	43,094	69,094
Newfoundland	1,197	1,349
New Zealand	101,462	123,224
Nicaragua	351	402
Norway	21,100	30,320
Northern Ireland	13,318	17,942
Nyassaland	390	520
Palestine	1,427	1,950
Panama and Canal Zone	4,579	5,122
Papua*	90	135
Paraguay	412	711
Persia	3,500	4,450
Peru	5,550	9,300
Philippine Islands	15,903	22,325
Poland	13,576	18,754
Porto Rico	11,450	14,750
Portugal	12,845	15,735
Portuguese East Africa (see Mozambique)		
Reunion	704	798
Rhodesia	4,000	4,320
Rumania	11,900	16,700
Russia	9,610	21,103
St. Lucia	75	96
St. Pierre	.....	24
Salvador	1,250	1,450
Samoa (See American Samoa; British Samoa)		
Seychelles Islands	12	12
Siam*	2,257	4,319
Society Islands	301	365
Solomon Islands*	.....	2
Spain	121,500	135,000
Sudan	600	849
Sweden	77,000	99,220
Switzerland	41,800	51,560
Syria	3,854	4,162
Taiwan	122	502
Tonga*	70	125
Trinidad and Tobago	2,675	3,486
Tunisia	4,200	4,645
Turkey	6,000	7,500
Union of South Africa	71,000	76,550
United Kingdom	754,284	1,023,651
United States†	19,293,112	22,137,334
Uruguay	25,050	30,060
Venezuela	8,000	10,045
Virgin Islands	333	392
Yeman	11	15
Yugoslavia	6,600	8,555
Total	23,518,928	27,650,267

*Figures obtained from the "American Automobile" (overseas edition).

†Includes 135,941 cars tax exempt, as used by Federal, State, and municipal governments.

W. MacEwen Appointed on Pierce Oil Staff

CLEVELAND, Aug. 1.—W. E. MacEwen, effective July 1, was made manager of sales of the Pierce Petroleum Corp., with headquarters in St. Louis. Mr. MacEwen was appointed by President Levy in charge of all station and tank car sales.

Mr. MacEwen is well known, having been with the National Refining Co. for some 25 years where he started in as office boy and stenographer. When the war came he was traffic manager and acted in charge of the special committee of traffic managers of western refineries which arranged and managed an expedited service on petroleum products for the Eastern seaboard and France. Mr. MacEwen was also active in all of the important oil company rate cases. He was then made manager of sales and for the last several years has been vice president in charge of sales of the National.

Issues Digest of State Oil Inspection Laws

TULSA, July 30.—The Western Petroleum Refiners Association has put out, bound in handy form, a mimeographed digest of the laws of 25 states governing inspection of kerosene and gasoline. In Alabama, all burning oils are examined and the specifications and tests are prescribed by the state board of agriculture. It is expected that a law providing for the inspection of gasoline also will soon be enacted in that state. Gasoline inspection is required in several other states.

Of the states making inspection of gasoline and kerosene, only four of those in the digest prescribe the specifications and methods of test of the U. S. Federal specifications board and the A. S. T. M.

The other 21 provide for various testing methods and testing equipment and call for specifications that have been devised by their own state officials.

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1923 1924 1925 1926 1927

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It is important to plan *now* for the future. More stations are going up every day. Our Filling Station Specialists have many interesting facts on successful filling station operation.

We do not pretend to be able to solve all your problems, or to know a lot of things about running stations that you know. But we have made a thorough study of the filling station business. It is quite possible that our Filling Station Specialist may be able to help you solve many of your problems, such as how to meet today's competition, where to locate a new station, how to get more business during slack hours, etc.

A talk with one of our Filling Station Specialists is sure to turn up some new thoughts and new ideas of value to you. A note to our nearest branch office will bring one of our Filling Station Specialists without obligation.

Some facts worth remembering

The most important thing to consider about any line of merchandise is:—*What does the public think of it?* Motorists know Gargoyle Mobiloil. In quality they know it tops the list. And most important for you, *they buy it*. Branded, known merchandise, such as Mobiloil, exerts a great stabilizing influence for the filling station. And of all the items carried in filling stations today, *Mobiloil is the best known and the most often asked for by name.*

To make *big* profits you must know answers to these questions

1. How can you meet today's competition?
2. How can you cut down the number of slack hours?
3. How can you better please your customers?
4. What makes customers come back?
5. What makes tourists stop?
6. What makes woman drivers buy?
7. What makes the farmer buy?
8. How can you compete successfully with big refiners?
9. Which brings most profits—"private" brands, "public" brands, or both?
10. How can you make larger sales to each motorist?
11. How should you locate new stations?
12. What type of station should you erect?

Our Filling Station Specialist may be able to help you with these important problems, and many others. That's his job. And remember he comes to help *you* get more profits.

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Increasing Oil Recovery by Flooding
1—Theoretical Considerations

By Lester C. Uren
Professor of Petroleum Engineering, University of California

THE three preceding articles of this series have reviewed recent progress in the development and application of the gas-pressure restoration and vacuum methods of oil recovery—methods involving the application of artificially developed mechanical energy in supplementing the expansive force of gas naturally associated with petroleum. The present article and the one following, are to be concerned with a competitive method of recovery which makes use of water as a means of displacing residual oil from the partially depleted reservoir sands.

The water-flooding process is one that has attracted a great deal of interest among oil producers during recent years, not only for the promise which it seems to offer of greatly increased recovery efficiency, but also because of the practical success already attained with it in the oil fields of northwestern Pennsylvania and western New York.

The present article is offered as a review of the theoretical principles underlying the water-flooding process, while the succeeding one will present the result of its practical application in field practice.

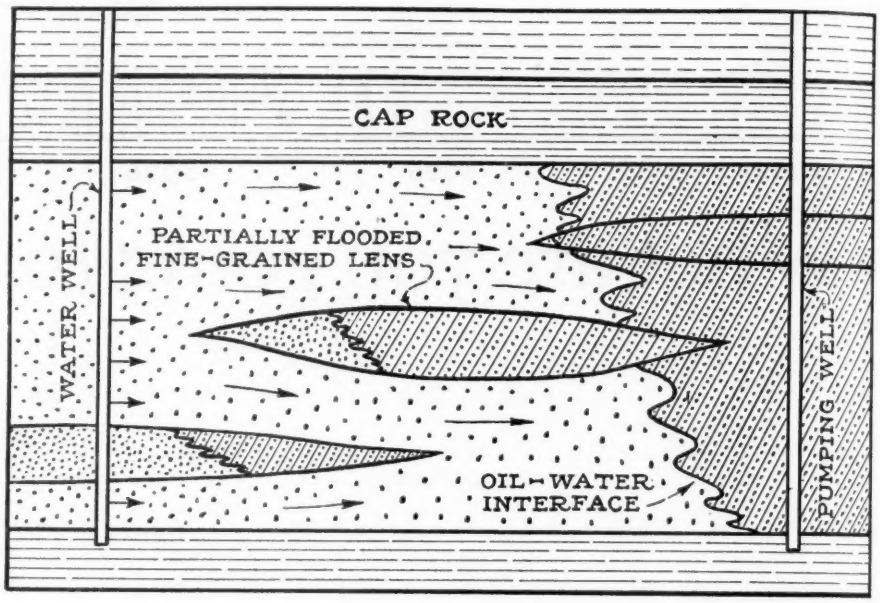

Fig. 1. Sketch illustrating "pocketing" of oil in fine-grained lenses embedded in coarser sands during flooding.

Mechanics of Water-Flooding

AFTER the gas naturally associated with petroleum has escaped from the reservoir rock, expelling a part of its original oil content, the residual oil, which is often in excess of 75 per cent of the oil initially present, is left in the form f an adherent film coating on the nd grains, and as a capillary-held id within the pore spaces of the eservoir rock.

Consideration of the retentive forces perative[1], indicates that a large proportion of the residual oil is retained as an adhesive film or coating on the sand grains.

Neither the gas-pressure restoration nor vacuum processes of recovery can have any important influence in reducing the volume of adherent oil, operating primarily in reducing the percentage of capillary-held oil. Water-flooding, on the other hand, may under favorable circumstances recover a large part of both the capillary held and adherent oil.

Processes of recovery based on the use of flowing gas in field practice can probably never be expected to recover more than 40 per cent of the oil initially present. Water-flooding may be considerably more efficient, laboratory tests indicating a recovery fully 20 per cent greater, under comparable conditions.

The value of a process of recovery which may be even partially successful in releasing the adherent oil, is better appreciated when the great area of rock surface exposed to the oil and providing opportunity for adhesive retention is considered. In earlier articles of this series[2], we have had occasion to point out that a large part of the original oil content of the reservoir rock may be retained by adhesion in this way.

THE grain surface exposed varies from about 1500 sq. ft. per cubic foot of reservoir sand for 20 mesh grains, to upwards of 8600 sq. ft. for sands of 100-mesh size, and even though the adherent oil film on the mineral surfaces is very thin, a large percentage of the saturated oil content of the sand will be required merely to wet the grain surfaces.

In the previous article of this series, it was shown that an unconsolidated oil sand 30 feet thick presents a grain surface of 608 square miles to the oil within a drainage radius of 300 feet of each producing well, and this was computed on the assumption that the grain surface exposed is only 2000-sq. ft. per cubic foot of sand, a figure appropriate only for rather coarse-grained sands.

The water flooded process operates by introducing water under pressure through one well, causing movement of fluids through the reservoir rock to other wells pumped for oil in the usual manner. As the water progresses slowly through the sand, it gathers ahead of its advancing front, a "bank" of oil which is eventually forced from the sands into the producing wells.

If the flood advances uniformly through the reservoir rock, its pores are left filled with water, the capillary-held oil previously occupying a part of the pore space, being completely displaced. In addition to this, the water may be successful, through operation of certain interfacial tension effects, in preferentially wetting the sand grains, by displacing a part of

1. Uren, L. C. "Measuring Natural Forces that Hold Back Flow of Oil on Ground," National Petroleum News, Feb. 9, 1927, p. 67.

2. See National Petroleum News, p. 53 of issue of Jan. 19, 1927, and pages 72, 74 of issue of Feb. 9.

the adherent oil from the previously oil-wet mineral surfaces.

This latter effect, however, is ordinarily incomplete unless aided by the addition of flooding agents which have the property of promoting release of the adherent oil.

Factors Influencing the Efficiency of Water-Flooding

IN DETERMINING whether the water-flooding process is adaptable under a particular set of conditions, it is important that the influence of the different factors controlling flooding efficiency be fully understood. Among the more important variables which have a bearing on the result, we have to consider the grain size and porosity of the reservoir sand and the viscosity, surface tension and density of the oil.

Continuity and uniformity in permeability and texture of the reservoir sand are important considerations. The time factor or the rate of flooding also has an important influence on the efficiency attained. Flooding experiments conducted under laboratory conditions have been productive of results which permit of accurate prediction of the effect of each of these different factors.

Flooding experiments with accurately sized unconsolidated sands, performed by the writer, indicate that greater efficiency is attained with coarse-grained sand than with fine sand. This result is contrary to prevailing opinion, but the writer's own data have been confirmed by two other workers[3],[4]. They disagree, however, with conclusions reached by Beckstrom and Van Tuyl[5] who, as a result of a somewhat similar series of experiments, report that a superior flooding effect is secured with fine-grained sands. The writer is unable to reconcile these opposing conclusions unless a difference in the character of crude used, or some fundamental difference in the manner of conducting the experiments has influenced the result.

Many writers have assumed that the displacement of oil from sand by water, is a result of the operation of differential capillarity. The surface tension of water is about 2½ times that of oil, and it is reasonable to assume that the displacement effect is due to the selective action of capillarity. Here again, however, the laboratory results do not accord with commonly accepted belief, it being found that the sands of greater porosity and large pore openings flood more effectively than sands of low percentage porosity and small pore size, in which we should expect to find capillary force developed to a high degree.

DATA secured by research workers associated with the writer[3],[4], working with California crudes, indicate that the viscosity of the oil will have an important influence on the efficiency of recovery, much higher yields being secured with light mobile crudes than with the heavy viscous crudes. Beckstrom and Van Tuyl, however, report some exceptions to this general rule[5].

In so far as meager results, so far secured, on the effect of surface tension of the crude on recovery, permit of a conclusion, it would appear that oils of low surface tension flood more effectively than those of high surface tension.

Temperature, of course, will have an important influence on oil viscosity, and to this extent, influences recovery, higher recovery being secured at higher temperatures[4]. To a lesser extent, increased temperature should also tend toward increased recovery through reduction in surface tension.

Among the important factors influencing the efficiency of water-flooding are continuity and uniformity in permeability of the reservoir sand. If the strata are much "broken" by clay partings, cross-bedding, etc., it will be difficult to drive the fluids through the sands from well to well. Even though the strata are continuous, there may be great differences in the porosity and grain size in different component beds of the reservoir rock, or the permeability of the sands within the same bed may vary within wide limits at different points.

Such conditions lead to erratic flooding effects, the water passing more rapidly through the highly permeable channels and engulfing large bodies of "tight" sand before the oil has been displaced from them. Figures 1 and 2 illustrate effects which it is thought, would be of common occurrence if oil-flooding were to be applied to sands of variable permeability.

THE rapidity with which a water drive is conducted will have an important influence on the effectiveness with which the oil is displaced, higher recoveries being secured with lower rates of progress. If the water is forced too rapidly through the sand, it will have a greater tendency to channel through the oil "bank" and trap bodies of undrained sand. Aside from this, a slower rate of advance of the flood permits the oil to more completely displace the adherent oil from the mineral grain surfaces, time being an essential factor in the readjustments of interfacial tension which must take place when water displaces adherent oil on silica.

The hydrostatic pressure necessary to cause water to enter the oil sand and drive the residual oil toward a recovery well, will vary with the sand permeability, the viscosity of the oil, the amount of residual oil in the sand, the distance between wells and the rate of flow desired. In the Bradford field a pressure of 350-pounds, developed by a hydrostatic head of

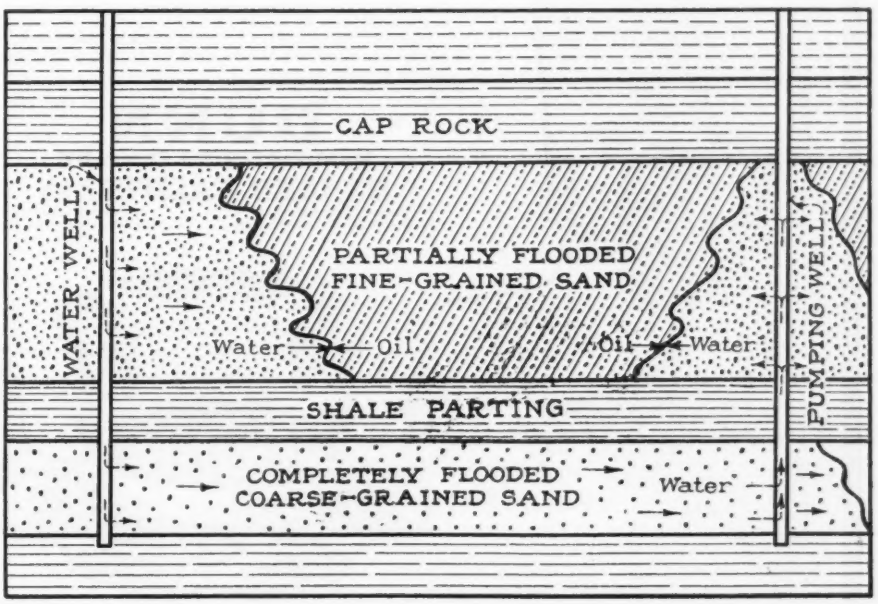

Fig. 2. Sketch illustrating "pocketing" of oil due to more rapid migration of water through coarser of two oil sands in flooding.

3. Fahmy, E. E., "A Laboratory Study of Certain Factors Influencing The Recovery of Petroleum from Oil-Saturated Sands by Water-Flooding," a thesis conducted under the supervision of the writer, for the degree of Master of Science, University of California, Dec., 1926.
4. Pope, S. H., "The Water-Flooding of Oil Sands as a Means of Increasing Recovery," a thesis conducted under the supervision of the writer for the degree of Bachelor of Science, University of California, May, 1927.
5. Beckstrom, R. C., and Van Tuyl, F. M., "The Effect of Flooding Oil Sands with Alkaline Solution," Bull. Am. Assoc. of Petroleum Geologists, Vol. 11, No. 3, p. 223-236, March, 1927. Also printed in the Oil and Gas Journal, Jan. 13, 1927, p. 34.

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about 800 feet in the water wells, advances the oil "bank" between wells 150 feet apart, an average of only 2 inches per day. A higher pressure would cause a more rapid rate of advance, or permit of spacing the wells a greater distance apart.

The resistance offered by the oil sand to passage of water and oil through it, depends not alone on the grain size and porosity of the sand, but also on the form of the pore spaces, as determined by the angularity and crystalline form of the grains. Clean, well-rounded sand grains of a certain size and porosity, offer less resistance to passage of fluids—i. e., require less pressure for a given rate of fluid movement—than a sand made up of angular fragments of similar size and of similar porosity.

The nature of the secondary mineral coatings on the grains will also have an influence in determining the character of the surface exposed to the oil, and the resistance which it offers to oil and water movement.

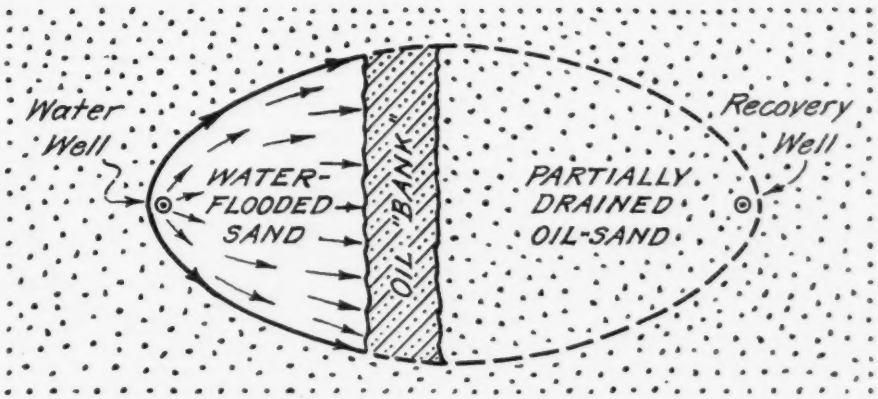


Fig. 3. Sketch illustrating elliptical form of area swept out between two wells in water-flooding.

IT SEEMS probable that the water introduced at the pressure wells does not spread out in the sand radially as many have assumed, but rather that it seeks the path of minimum resistance as determined by variations in sand permeability and distance to productive wells. The flow between wells may be quite erratic, perhaps following some circuitous channel which offers less resistance to flow than the straight path between two wells. The nearest well may not necessarily offer the outlet of lowest sand resistance. If we assume uniform sand conditions, it is probable that the water would not follow a straight line from the pressure to the outlet well, but would spread out over an elliptical area having the line connecting the two wells as its major axis[6] (see Fig. 3). Uniformity of flow to several producing wells from one pressure well may be accomplished by applying varying degrees of back pressure on the producing wells.

A considerable part of the pressure loss between the pressure well and outlet well, is in their immediate vicinity. In the sands immediately about the wells the fluids are flowing more rapidly than some distance away between the wells, where they may spread out over a greater area, and the pressure loss increases as the rate of flow increases. Forming enlarged cavities about both the pressure and recovery wells, will reduce the pressure loss materially, thus permitting a more rapid rate of flow if desired, or if not, a lower input pressure may be used. Such cavities may be formed with the aid of explosives, or by the hydraulic method described in an earlier paper of this series[7].

Interfacial Tension Phenomena and Their Influence in the Displacement of Adherent Oil From Sand by Water-Flooding

THE relative wetting powers of oil and water for the mineral of which the sand grains are composed, is an important consideration in determining the extent to which the adherent oil is displaced from the sand surface by water-flooding. Oil is in possession of the grain surfaces when the water is introduced, and if it is to be displaced by the water, it must be by reason of some superior attraction which the mineral has for water, in comparison with that which it has for oil. We may refer to this property as "wetting power" but actually it is the result of certain more fundamental relationships to be found in the intermolecular attractions existing between water, oil and silica, of which mineral the sand grains are largely composed.

These intermolecular attractions give rise to forces which are reflected in interfacial tensions between the three substances.

Let us assume a condition in which two spherical silica sand grains are immersed, their lower halves in water and their upper parts in oil floating on the water. The lower half of each sphere is wet with water and the upper half with oil. (See Fig. 4.) If the water and oil now rise while the sand grains remain stationary, does the water displace the oil on the upper surfaces, or do they remain wet with oil after they are inundated with water? The answer depends upon the relative magnitude of the interfacial tensions operative.

THREE interfacial tensions are developed: that between the oil and the water, that between the water and the silica, and that between the oil and the silica. Let us call these T_{ow}, T_{sw} and T_{so}, respectively. The conditions of equilibrium require that one of these two interfacial tensions must always exceed the sum of the other two[8]. The interfacial tension between water and oil, we know to be low—seldom more than 20-dynes per centimeter.

Though we have not as yet a means of measuring solid-liquid interfacial tensions, we know from qualitative effects that they are much higher than liquid interfacial tensions. Hence T_{ow} may never be greater than the sum of T_{sw} and T_{so}, though either of the latter two may be greater than the sum of the other and T_{ow}. Physical concepts indicate, under the conditions above assumed:

(1) That if T_{sw} is greater than T_{so} plus T_{ow}, the silica will remain wet with oil; but

(2) That if T_{so} is greater than T_{sw} plus T_{ow}, the oil will be displaced from its contact with the silica and the oil wet silica surface becomes water wet.

The greater the inequality between T_{so} and the sum of T_{sw} and T_{ow}, the more readily and completely will be the displacement of oil by water. The greater the interfacial tension existing between a liquid and a solid, the less does the liquid tend to wet the solid.

If we wish to encourage the release of oil from a silica surface by flooding with water, according to the relationship stated under (2) above, we may do so by increasing the interfacial tension between the silica and the oil, or by decreasing that between the silica and the water, or by decreasing that between the oil and water.

Use of Soda as a Flooding Agent in Water-Flooding

THE interest of oil producers has been attracted during recent months by the proposal that a water

6. Herold, S. C., "Some Analytical Principles in Recovery by Force Drive," Trans., A. I. M. & M. E., October, 1926. Reprinted in Oil & Gas J., Oct. 28, 1926.

7. Uren, L. C., "New Methods of Using Energy in Gas to Stimulate Oil Recovery," National Petroleum News, April 27, 1927, p. 67-77.

8. Coghill, W. H., and Anderson, C. O., "Certain Interfacial Tension Equilibria Important in Flotation," U. S. Bureau of Mines, Tech. Paper 262.

solution of sodium carbonate might be advantageously used in flooding oil from sand, in lieu of water. Pure water is only partially effective in releasing the adherent oil, but laboratory studies have shown that dilute soda solutions are much more effective, the adherent oil film on the sand grain being almost completely removed under favorable conditions[9]. Experimental data published by Beckstrom and Van Tuyl[5], clearly demonstrate the effectiveness of this reagent.

The use of dilute sodium carbonate solutions as a means of freeing petroleum and asphaltic substances from bituminous sands was patented[10] in 1920 and its use in extracting oil from "tar sands" was described by Fyleman two years later[11]. More recently, the use of sodium carbonate solution, introduced through wells in water used in flooding petroleum from its reservoir sands, has been proposed by Mr. P. G. Nutting of the U. S. Geological Survey, who has published several papers explaining the physical and chemical relationships involved.[12], 13, 14, 15, 16.

Mr. Nutting believes that oil and water are mutually soluble in each other to a slight degree, and that hydrolysis of crude petroleum by water is "very pronounced," though slow, leading to the formation of interfacial membranes between the oil and the water, of the nature of higher alcohols.

It is found that silica may filter or even fractionate petroleum by selective adsorption; or it "may act as a catalyst in shifting equilibria"; or it may react with certain components of the oil. Silica is shown to have the property of absorbing water or oil, the presence of alkali inhibiting the adsorptive power for oil, while acid improves it.

In explaining the action of sodium carbonate in releasing oil held by adhesion on sand grains, Nutting suggests that:

"Silica in contact with water attracts to its surface the hydrogen ions from the water, forming a coating of SiooH radicals. SiooH being insoluble, the reaction ceases with formation of a surface layer. SiooH may be supposed to have an affinity for various hydrocarbons. For example, we might expect CH_3. SiooH to be formed. But since the latter reaction is limited to a surface layer, we should expect it to be manifest as an affinity in selective absorption. Hence, wetting with water may produce in a sand, an affinity for petroleum."

"This affinity for oil should therefore be destroyed by dissolving in the water, a substance having a stronger affinity for SiooH than that possessed by the hydrocarbons. Many such substances—acids, alkalies, esters, etc.—will weaken the hold of the sand on the oil; the stronger acids and bases react more or less with the oil . . . Weak organic acids, such as tannic and acetic acids, might be used, but they are quite expensive. . . . The affinity of sand grains for hydrocarbons is completely destroyed by the use of a salt of a strong base and a weak acid, in particular, the carbonates, bicarbonates, borates, silicates, acetates, etc., of the elements of group one. Sodium carbonate is particularly effective, is extremely soluble, and is inexpensive. . . . The reaction with SiooH is evidently decisive, being perhaps, the intermediate step in the formation of sodium silicate. . .

$$SiooH + OH = H_2Sio_3.$$

This gives a hydrogen replaceable by sodium."

The writer finds himself unable to wholly subscribe to these concepts and prefers to ascribe the effect of the soda primarily to its influence on the interfacial tension between the water and the oil, and on that between the water and the silica.

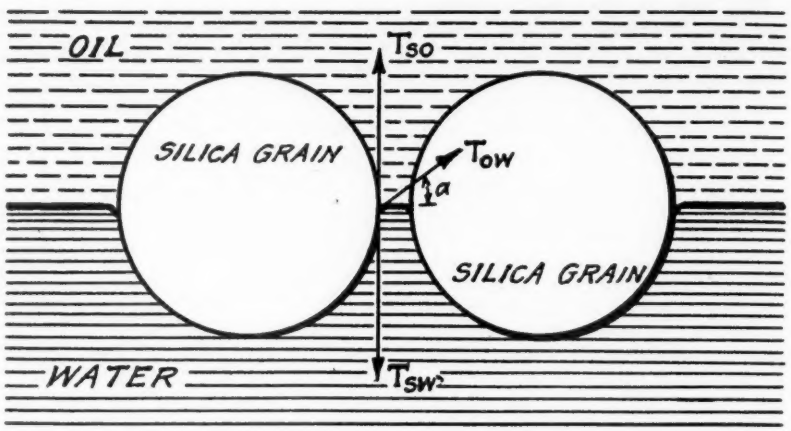


Fig. 4. Sketch illustrating interfacial tension relationships at an oil-water-silica interface.

AS EXPLAINED in the preceding section, we encourage displacement of the oil from the sand by decreasing the interfacial tension between the silica and the water, or by decreasing that between the oil and the water. When soda is in solution in the flood water, we do both, probably reducing the entire right-hand member of the inequality expressed under (2) above, almost to zero. This results from the fact that the soda solution is chemically active on both the oil and the silica of the sand.

When dissolved in water, sodium carbonate hydrolyzes, forming sodium hydrate and sodium bicarbonate, thus:

$$Na_2Co_3 + H_2o = NaoH + HNaCo_3.$$

It is the sodium hydrate that is active in releasing oil, a solution of sodium hydrate or of any other substance—such as sodium silicate—which hydrolyzes to produce sodium hydrate, being equally effective. Sodium hydrate reacts with silica to form sodium acid silicate:

$$NaoH + Sio_2 = NaHsio_3.$$

Reagents forming this substance in reaction with silica, are found to be effective in releasing the adherent oil, even when present in concentrations as low as one-twentieth normal. That the reaction does occur is evidenced by the rapid loss of alkalinity of the solution when in contact with pure silica sand, titration with phenolphthalein indicator showing in the case of a one-tenth normal solution of sodium carbonate, an almost total loss of alkalinity by passage of the solution during a 24-hour period, through a 2-foot column of sand. The sodium hydrate is then entirely consumed, and the remaining carbonate in solution is entirely bicarbonate ($HNaCo_3$), which is ineffective as a flooding agent. It is considered probable that due to this reaction between the silica and the sodium carbonate solution, the interfacial tension, T_{sw}, is reduced to a low value, thus promoting release of the oil.

9. Brief articles descriptive of the proposed process, have been printed in many of the trade journals, among them: National Petroleum News, Vol. 17, p. 75, July 15, 1925; Oil Age, Vol. 22, p. 82, Aug., 1925; Oil Bulletin, (Los Angeles) Vol. 11, p. 1223, Nov., 1925; Petroleum Times, Vol. 14, p. 94, July 18, 1925; and Oil and Gas Journal, issues of July 9, 1925, p. 28, and July 16, 1925, p. 104.
10. Fyleman, E. British Patent No. 163,519 (1920).
11. Fyleman, E. "The Separation of Adherent Oil or Bitumen from Rock," Jour. of Soc. of Chem. Ind., (London), Vol. XLI (1922) pp. 14T—16T.
12. Nutting, P. G., "Chemical Problems in the Water-Driving of Petroleum from Oil Sands," Ind. and Eng. Chemistry, Vol. 17, Oct., 1925, pp. 1035—1036.
13. Nutting, P. G., "Geochemical Relations Between Petroleum, Silica and Water," Economic Geology, Vol. XXI, May, 1926, pp. 234—242.
14. Nutting, P. G., "Soda Process for Petroleum Recovery," Oil and Gas Journal, Mar. 31, 1927, p. 76.
15. Nutting, P. G., "Principles Underlying Soda Process," Oil and Gas Journal, May 5, 1927, p. 32.
16. Nutting, P. G., "The Movement of Fluids in Porous Solids," Journal of the Franklin Institute, Feb., 1927, pp. 313—324.

THAT the interfacial tension between crude petroleum and a water-solution of sodium carbonate is very low, has been proven by actual test with the DuNoüy Tensiometer.[17] Drawing the platinum ring of this instrument up through the oil-sodium carbonate solution interface, an interfacial tension of 6-dynes or less is indicated, whereas the interfacial tension between the same oil and pure water, measured in the same way, is 18-dynes. Reduction of the interfacial tension is probably again due to chemical action, the sodium hydrate in this case acting on certain acid constituents of the oil. Proof of this reaction is found in discoloration of the soda solution on prolonged contact with the oil.

Reduction of the oil-water interfacial tension, T_{ow}, thus effected, as explained above, tends to promote release of the oil. In a series of tests conducted by Mr. E. E. Fahmy[3], it was shown that the flooding efficiency of various reagents is roughly proportional to the extent to which they reduce the interfacial tension between the flood-water and the oil. In these experiments, California crudes were used. It is quite possible that the extent of this reaction between the soda solution and the oil, will vary with the chemical nature of the oil.

Microscopic studies of the displacement of oil from sand surfaces by water solution of sodium carbonate, indicate that the solution quickly envelopes each grain in turn, once it finds access to the silica surface through the oil film, but there is often a considerable delay in movement of the flood water from one grain to the next. In fine-grained sands, much of the oil thus released from the sand surfaces, remains in the form of minute globules, trapped by the water in the sand pores. Because of this action, recovery is seldom in excess of 80 per cent of the original oil content, and often considerably less.

IN FLOODING oil sands with soda solution through wells, Mr. Nutting proposes that a concentrated solution of soda be introduced for a time at each pressure well, until a bank of solution has been accumulated behind the oil bank, and that ordinary water be then used to drive the soda solution and the oil toward the recovery well. In this way, the soda solution is supposed to remain at the front of the advancing water "wave." Though Mr. Nutting admits that the concentration of the active reagent in the flood-water will be continually diminishing by reaction with the sand, he believes that by starting with a concentrated solution at the recovery well, it may still contain a sufficient quantity after reaching the recovery well, 100 or 150-feet distant, to render it effective in displacing oil.

This will, of course, depend upon the degree of reactivity developed with the oil and the sand and the rate of advance. Results obtained with Santa Fe Springs, California, crude in pure silica sand, lead the writer to believe that the alkalinity of the flood water could not persist over so great a distance, and for so great a time as would be necessary to flood out the area between two wells 100 or 150-feet apart.

Furthermore, there is no assurance that the soda solution could maintain its position at the front of the water wave without extensive contamination with water from behind. The water which first wets the sand after displacing the oil, is that immediately behind the oil, and unless it be contended that this adherent water is continually replaced on the sand surfaces and pushed forward by additional water from behind, the water containing the reagent would soon be used up in wetting sands near the pressure wells.

Fresh water pushing forward through the pores of this water-wet sand, containing the reagent, may be expected to take up only a part of the alkaline reagent by diffusion, and thus the soda solution at the oil-water interface would tend to become rapidly impoverished by continual dilution.

FOR the reasons expressed above, the writer believes that the soda-flooding process as at present conceived, will not be successful in field applications. Some means must yet be found to maintain the concentration of the effective reagent at the oil-water interface. The proof may be looked for in field tests now under way in the Bradford field. If water entering the recovery wells following the oil bank, contains sodium carbonate of measurable phenolphthalein alkalinity, its success seems assured.

If, on the other hand, nothing but bicarbonate of soda is to be found in the flood water, the process is only partially effective. The additional oil secured, in comparison with what is possible by ordinary water-flooding without the reagent, will be a measure of the distance over which the alkalinity of the solution has persisted.

In addition to the question of its efficacy in displacing oil, over the distance and time of flooding between wells, the soda-flooding process would appear to have certain disadvantages in the tendency of the solution to react with other substances to such a degree as to deposit secondary cementing material in the sand grains.

Carbonates react readily with any soluble calcium salts that may be present in the sand or in the flood-water, precipitating out insoluble calcium carbonate. Sodium acid silicate formed by action of the soda solution on the silica of the sand, is a sticky, gelatinous substance, which would tend to accumulate on the sand grains, and under conditions which might easily be brought about in the sand, would separate out amorphous silica. Mr. Nutting reports, however, as a result of laboratory tests, that these effects do not seriously impede the progress of the flood.[14]

Conclusions

IN THE foregoing review of the theoretical aspects of water-flooding, it is shown that this process has certain very definite advantages and disadvantages, a proper appreciation of which is essential to its successful practical application. Since the flooding process is capable of securing all the capillary-held oil and a part of the adherent oil as well, under favorable conditions it gives promise of being a more efficient process of oil recovery than any process based on the expulsion effects of expanding gas, which methods are unsuccessful in recovering any of the adherent oil. Due to the enormous surface exposed by the reservoir sand to the oil, a large part of the original oil content is ordinarily retained by adhesion on the surface of the sand grains.

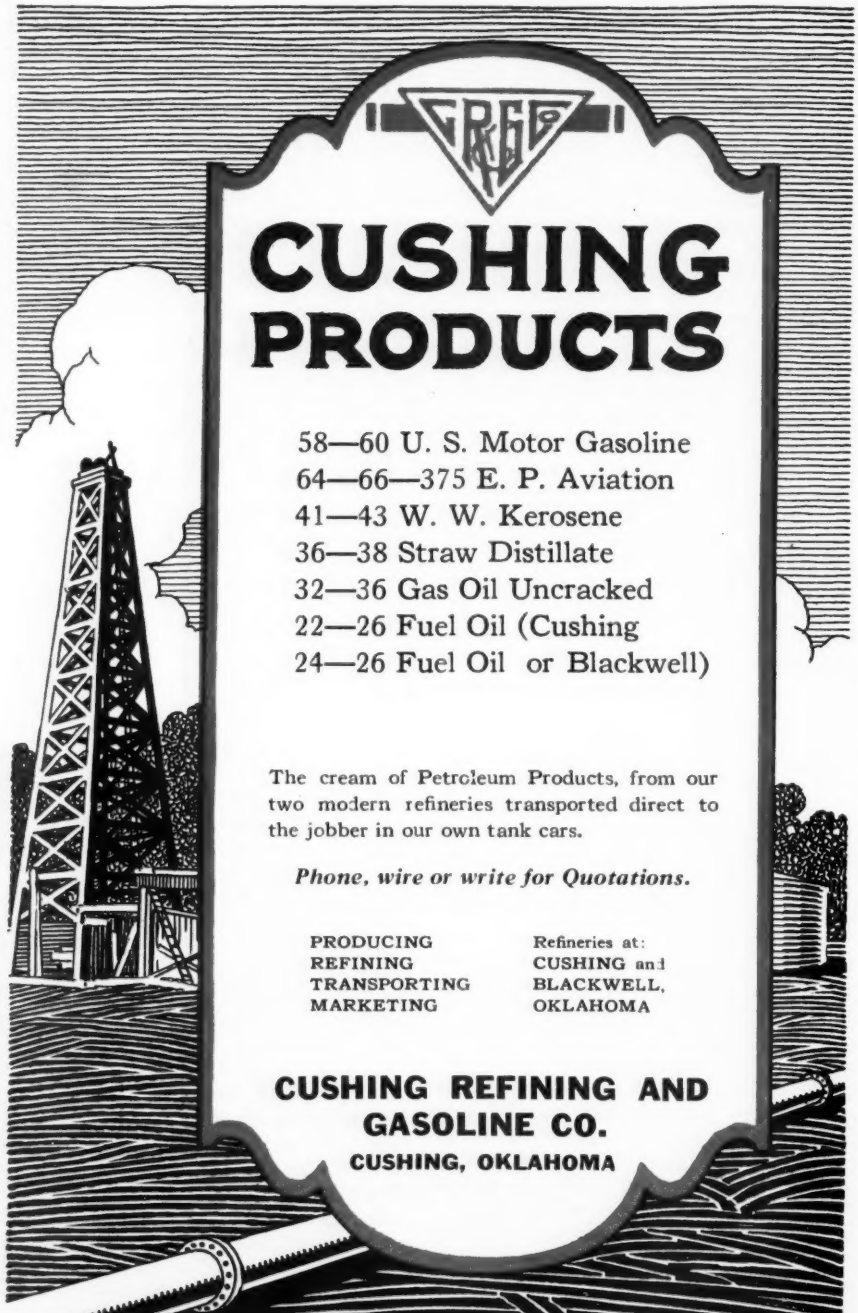
Studies of the factors influencing flooding efficiency, indicate that high sand permeability—as determined by large grain-size, high porosity and low oil viscosity—tends toward increased oil recovery. The recovery efficiency will also be influenced to an important degree by variation in the lithologic characteristics of the reservoir sand, causing by-passing or trapping of undrained portions of the reservoir sand; and also by the rate at which the water displaces the oil, maximum recovery being secured with a slow rate of advance of the flood-water.

The displacement of adherent oil from the sand grain surfaces by water, is shown to be accomplished by certain readjustments in interfacial tensions between the water, the oil and the mineral of which the sand grains is composed. Reduction of the interfacial tension between the water and the oil, or between the water and the mineral, promotes displacement of the oil by the water. These interfacial tensions are materially reduced by adding to the flood-water a reagent which reacts with or dissolves the oil or the silica of which the sand grains are composed.

Reagents which liberate hydroxyl ions in water solutions—such as sodium or potassium carbonates, silicates or hydrates—are active in reducing both of the interfacial tensions mentioned, and thus result in the release of much of the adherent oil.

Such reagents are rapidly consumed

17. A reproduction of a photograph of this instrument will be found in an earlier article of this series, National Petroleum News, Feb. 9, 1927, page 71.



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by reaction with the sand and the oil, and unless a means be found for maintaining their concentration at the oil-water interface in flooding between wells, is is thought that they will not be practically successful.

This is the first of two articles reviewing the theory and practice of water-flooding. The second article, dealing with the practical and economic aspects of this method of recovery, will appear in an early issue of NATIONAL PETROLEUM NEWS.

California Gasoline Men Elect 15 Directors

LOS ANGELES, July 23.—Members of the California Natural Gasoline Association July 21 approved changes in by-laws of the organization after listening to the fight returns from New York and cheering the winner. They heard two papers and got off to a good start under the administration of new officers.

New members are:

Two-year term—Lloyd F. Bayer, A. H. Bradford, J. A. Campbell, J. N. Hicks, H. R. Linhoff, H. E. Moulton, A. M. Porter and C. J. von Bibra.

One-year term—J. L. Denny, Ben Kohler, S. B. Mosher, E. R. Pratt, F. N. Rumbley, C. M. Scott and J. H. Vordenmark.

Mr. Campbell said he preferred not to serve and suggested that the superintendent of his plant, Lomita Gasoline Co., be elected. Decision will be reached at the next monthly meeting.

A. K. Hegeman, Clark Gas Engine Co., read a paper on "The A. W. Hubbell Patents" and also discussed isothermal and adiabatic compression.

E. F. Jones, General Petroleum Corp., read a paper on "Slide Rule Computation of Gas Volumes from Orifice Meter Charts."

Texas Refund Made On 1923 Gasoline Tax

HOUSTON, July 21.—Henry H. Brooks, receiver for the state of Texas in litigation affecting collection of gasoline taxes disputed in the months of April, May and part of June, 1923, is sending out notices advising of refunds to oil companies.

A 1-cent gasoline tax on which collections were made from May 1 to June 13, 1923, was invalidated under decision handed down some time ago in the case of the Pioneer Oil & Refining Co., of San Antonio, against the state. The tax mentioned was followed some time later by another 1-cent excise, which stood until the new 3-cent tax was put in effect in 1927.

Mr. Brooks maintains an office at 242 Austin National Bank bldg., Austin, Texas.

Carefully Picking and Training Truck Drivers Cuts Accidents

CLEVELAND, July 28

HOW one large company reduced the number of accidents in its fleet of 75 trucks by carefully selecting and educating drivers is told in a letter by C. L. Hightower, safety director, Texas Pacific Coal & Oil Co., published in the News Letter of the petroleum section of the National Safety Council. Mr. Hightower wrote in part:

"1. We first analyzed the automobile accidents occurring during the preceding 12-month period and classified them under the following headings: Mechanical conditions of vehicle, speeding or violation of traffic control laws, improper parking, inexperience of driver, and negligence of driver in operating vehicle. On learning that the greater percent of accidents came under the latter classification we immediately started educational work among the drivers.

"2. We first interviewed the greater per cent of the drivers, especially including those whose records for accidents were bad, and questioned them as to the dangers in connection with their work. After these interviews were completed and the transportation superintendent consulted with, we drew up a 'hazard analysis' for the operation of motor vehicles. In this analysis was included the local and state traffic laws and company rules for the operation of emergency vehicles. Copies of this analysis were distributed to every driver through his division head with specific instructions to carefully study the analysis and comply with the rules given.

"The following are some of the items included in the analysis:

"a. Give hand signal before stopping or turning.

"b. Don't follow the car ahead closer than 25 feet.

"c. Always look before backing.

"3. We then initiated a competitive contest among the drivers. The contest was continuous and no cash awards or prizes were given. Instead we made up a number of windshield stickers bearing the National Safety Council emblem and reading: 'This car (or truck) had no accidents for 3 months' (or whatever period covered); every 30 days the stickers were changed.

"We found that employes enjoyed the rivalry stimulated through the contest and exerted every effort to avoid making a bad record.

"4. Employes were made to pay their own fines when arrested for speeding or improper parking and this fact materially reduced accidents from this source.

"5. To avoid accidents resulting from mechanical conditions of equipment the garage division instituted the practice of a thorough weekly inspection of all cars and trucks. Employes were also instructed to inspect steering apparatus, tires, wheels, etc. before leaving garage each day.

"6. To eliminate accidents caused by inexperienced drivers the garage division required evidence of the safety department that the employe had met the drivers' test before issuing a car or truck. This test was given by a representative of the safety department who after questioning the man as to his knowledge of driving different cars, traffic rules, etc., accompanied him on a trial drive. All drivers were given field vision, color and distance judging tests before being accepted by the employment department.

"Drivers were also encouraged to attend the safety drivers' classes conducted in the city and small stickers such as 'Drive Carefully,' 'Watch the other fellow,' etc. were posted occasionally on the windshields of all cars and trucks."

DeGolyer to Address California A.I.M.E.

LOS ANGELES, July 28.—The southern California section of the American Institute of Mining and Metallurgical Engineers will hold an informal dinner and meeting Monday, Aug. 15, in Los Angeles in honor of E. DeGolyer, president, and H. Foster Bain, secretary of the institute.

Mr. DeGolyer is president of the Amerada Petroleum Corp., one of the most progressive companies in using new methods in producing oil, especially the geophysical method. Mr. DeGolyer will discuss the geophysical method of prospecting not only for oil but for other minerals and metal bearing ores.

Mr. Bain was formerly director of the Bureau of Mines.

John E. Hodge is chairman of the southern California section.

Air Reduction Co. Inc., 342 Madison ave., New York, has purchased the business, insofar as the manufacture and sale of oxygen, acetylene and kindred products are concerned, of the United Gas Improvement Contracting Co. a subsidiary of the United Gas Improvement Co., and the United Oxygen Co., Philadelphia. The purchase includes oxygen plants at Philadelphia, Chester, Milton, Enola and Reading, Pa., and an acetylene plant at Bridgeport, Pa.

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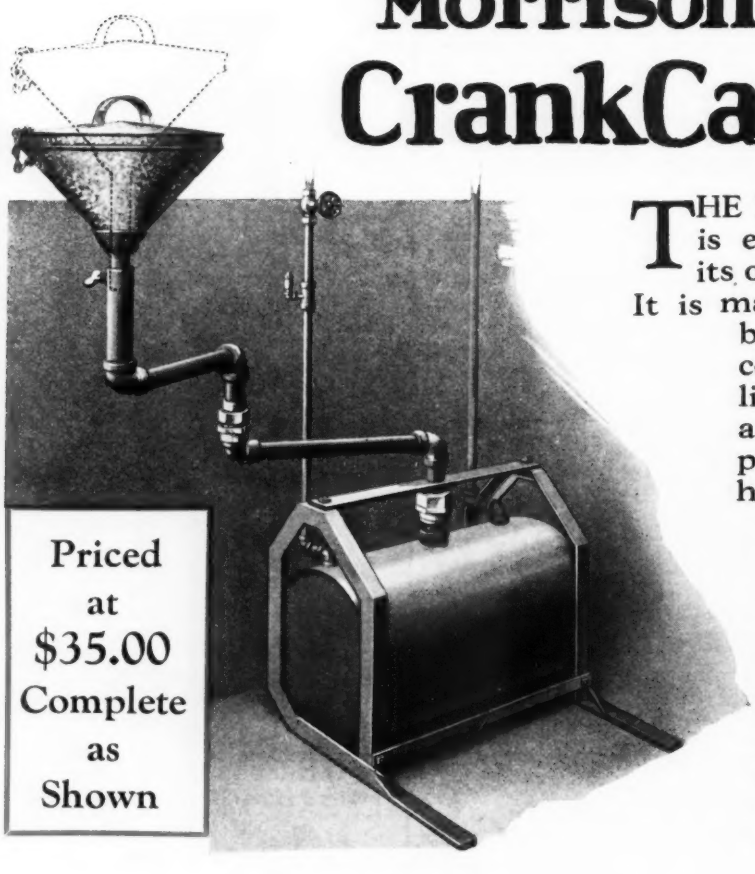

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THE Morrison Crank Case and Pit Drainer is easily installed. It stands firmly by its own weight on the bottom of the pit. It is made to fit any pit. Air hose may be used instead of pipe for the air connection and for the oil discharge lines. If hose is used, installation is a matter of a few minutes with practically no labor. We recommend, however, the permanent installation with piping. This is not difficult and requires very little labor and material.

WHAT IS FURNISHED:--Funnel with lid, piping and fittings as shown and two swing joints from funnel to air tank; three valves; six gallon oil tank tested to 400 lbs. air pressure, with stand; connections at air tank for air line and outgoing oil line.

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DUBUQUE, IOWA

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

Stellarene Introduced By Its Daddy

WILLIAM G. Leamon, Leamon Process Co., New York, has put out a little booklet to introduce Stellarene, the product made by the vapor phase cracking process which was developed by Mr. Leamon. He states in the booklet that: "Stellarene is the original non-detonating motor fuel, a uniform, standardized article produced entirely and directly from petroleum. It is not a blend and contains no dope. Its raw material and its range of potential distribution is coextensive with that of gasoline.

"Stellarene, produced by direct manufacture at the refinery can be put into the tanks at less cost per gallon than ordinary cracked gasoline."

Mr. Leamon's booklet goes on to state that a coal company in Canton, O., has operated its large fleet of trucks for five years on Stellarene "because cost records show that although it costs more per gallon it costs less per year."

A picture showing the installation of four Stellarene units at the plant of the Interocean Oil Co., Baltimore is published. Graphs plotted from the results of dynamometer tests comparing Stellarene performance with ordinary gasoline, California natural anti-knock gasoline and benzol blend are shown.

As to construction and operating costs, Mr. Leamon says: "A unit to produce 250 barrels of Stellarene per day costs $50,000 while one to produce 500 barrels costs approximately $75,000 exclusive of real estate.

"In a plant producing 500 barrels of Stellarene a day the manufacturing costs would be about 1¾ cents per gallon, the royalty three-quarters of a cent a gallon and the sales and delivery cost about 1¼ cents per gallon where distribution is effected by tank trucks direct from the manufacturing plant."

Atlantic Safety Trophy Moves

THE July issue of the "Siren of Safety," put out by the Atlantic Refining Co., records the fact that Manager M. J. Welsh of the Brunswick, Ga., plant of the company, is the winner of the trophy awarded to the refinery that goes through three months without a lost time accident. April, May and June passed without an accident at the Brunswick plant. The trophy previously adorned the office of the Pittsburgh refinery and Manager G. M. Weaver of that plant, in surrendering it, gives fair warning that he expects to claim it again on the last day of September.

The same issue of the Siren tells how the fact that they were wearing goggles saved the eyes of two boilermakers at the Point Breeze plant when acid which they were pouring from a carboy into a one-gallon container splashed in their faces.

Storing Fuel Oil for Winter Demand

THE Manhattan Bulletin, house organ of the Manhattan Oil Co., Kansas City, states in its July issue that the Kaw Steel Construction Co. has just completed construction of a 55,000-barrel at the company's refinery tank farm which is being filled with fuel oil against the winter demand.

Another 55 is also being erected. Repairs are being made on three of the stills at the refinery and a Plibrico diffusion furnace has just been installed under one of the stills. The amount of crude run through the plant during the spring was cut down somewhat, it is stated, because of the flooded state of the Kaw and Missouri which made it necessary to use one of the water pumps to pump the condenser water over the dikes.

Putting Over Cracked Gasoline

A LETTER received recently indicates that there is considerable to be done toward educating not only the public but also the trade on the merits of cracked gasoline. The letter mentioned comes from the manager of a jobbing company and expresses doubt that cracked gasoline is any better than the straight run product. In fact, he puts the question up to us as follows:

"What prompts the oil companies to claim superiority of cracked gasoline over that known as straight run, properly treated and so on? Is not the reason that they can reclaim more that was formerly lost and they have to claim something for it to put it over the public?"

The best engineering and scientific talent that has been working for years on the problem of producing the greatest possible amount of motor fuel suitable for the best engines the automobile manufacturers can produce, are agreed now that cracked gasoline, because of its greater content of unsaturated hydrocarbons and aromatics, is generally better fuel in an engine of high compression than a straight run gasoline which contains mostly straight paraffins.

This undoubtedly will continue to be true unless some refinery technologist discovers a method for making the anti-knock paraffin compounds out of crude oil in the refinery that Dr. Graham Edgar of the Ethyl Gasoline Corp., has made in the laboratory and which have been described in NATIONAL PETROLEUM NEWS.

A great deal has been written about the superiority of cracked gasoline in these days when each year's cars and even each new set of models carry a higher compression than that of the last succeeding batch, but it evidently hasn't gotten across very well. If the manager of a gasoline marketing company still thinks that all this talk about cracked gasoline being better is the bunk, what does the public think?

Of course, the relative superiority of cracked gasoline is a widely varying quality. According to the findings of men well qualified to determine the facts, some cracked gasoline is equal in anti-knock value to the Ethyl gasoline standard while cracked fuels from other crudes and made by other processes range from that standard down to relatively small anti-knock value.

It is certain that work is going on generally to discover cracking methods that will produce a gasoline of still higher anti-knock value.

Florida Tests Fail To Change Negative Data On Oil Possibilities

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, July 29

THE bogy of oil production in Florida recurs every so often in the newspapers, generally reflecting publicity efforts of real estate or oil stock promoters to stimulate interest. Sufficient inquiries about Florida's oil possibilities have reached this periodical to make it desirable that a re-statement should be made of the established facts.

Although a few test holes have been drilled in parts of Florida since the writer made a generally unfavorable report on the state on page 105 of the Jan. 20, 1926 issue of NATIONAL PETROLEUM NEWS, they have failed to disclose data of more encouraging nature.

The character and structure of formations underlying the surface of the Peninsular state are generally unfavorable both for the origin and the accumulation of petroleum deposits.

Official recognition of the fact was given by Herman Gunter, state geologist, at Tallahassee, when he said:

"Prospecting for oil and gas, even in a state that is classed as productive, is a very hazardous undertaking; and in a state like Florida it must be considered as wildcatting of the wildest type, which should be undertaken only by those who can afford to lose any money so invested."

The writer is privileged to make public for the first time parts of a geological report on the oil possibilities of Florida as measured by an international authority. Circumstances under which the report was made several years ago and the name of its author are confidential, but the data disclosed in a comprehensive survey of structural conditions affecting Florida may be published.

It is desirable to point out in connection with this report that no one can say positively that oil does, or does not, exist in a sedimentary area; for the reason that unmeasurable sub-surface conditions may occur to make impossible a 100 per cent positive statement. Available data, however, indicate that any petroleum possibilities Florida may have fall far short of probabilities.

"Possibilities for oil are practically absent in Florida," reads the report mentioned. "There is no warping, causing structure, and the Tertiary (with the exception of a thin veneer) is practically exclusively represented as foraminiferous limestones—deposits of a clear water sea—conditions absolutely adverse to the genesis of oil.

"Cretaceous, although most probably present in the underground, is unknown; nor can the depth of the Cretaceous be estimated. At Blakely, Ga., 60 miles north of the Florida state line, the top of the Cretaceous was reached at about 500 feet (235 feet below sea level), dipping rapidly to the south. Neither the rate at which this dip continues, nor the thickness of the Eocene, are known. It is the opinion at the geological survey that in northern Florida the top of the Cretaceous might lie at about 3000 feet below the surface. This would throw the Cretaceous oil horizons absolutely out of reach. Besides, there being no structure, there hardly could be accumulation of oil or gas in the Cretaceous."

THE dynamics of structure affecting the region are discussed in a part of the report, which is of wide interest because of general conditions recognized in broad areas skirting the Gulf of Mexico. That part of the report says:

"The Florida peninsula is the eastern rim of a considerably larger, for the greatest part, submerged plateau, the surface of which gently slopes from east to west. The Florida plateau, evidently, is closely connected geo-structurally with the old pre-Appalachian land mass which underlies the southeast of the United States, outcropping from Alabama and Georgia to New England, at the back of the Appalachian folding.

"In Alabama and Georgia this old land mass disappears under the Coastal Cretaceous and Tertiary, as do the Appalachian folds in Alabama, but positive gravitation anomalies at the Atlantic Coast, on the Florida-Georgia state line, at Apalachicola, Cape Canaveral, Tampa, Palm Beach and Key West, indicate its underground continuation.

"Somewhere under western Alabama or eastern Mississippi, the Appalachian folds most probably shear with the most western arch of contemporaneous Permo-Caboniferous folding, in a similar manner as the great European arches shear in central France.

"The western American arch remains hidden under the deposits of the Mississippi embayment, but emerges again in Arkansas, sweeping through southern Oklahoma (Arbuckle and Wichita mountains), across the Cordilleras, where numerous old chunks in New Mexico and Arizona, folded within the younger Cordilleran folds, show the old pre-Triassic east-west trend.

"Positive gravitation anomalies from Laurel, Miss., over Rayville, La., Texarkana, Ark., Denison, Texas, to Shamrock, Texas, seem to indicate clearly the track of the old hidden chain. Apparent interruptions may have been caused either by defects in observation or lack of stations—or, very likely, by the old cores of heavier rocks dipping very deep under thick masses of folded lighter paleozoic sediments.

"The old land mass which evidently underlies the Florida plateau probably continues under the largely submerged Bahama plateau, from which it is separated only by the narrow Florida straits, where depth does not exceed 400 fathoms.

"A similar land mass evidently lies to the west of the Appalachian shear, outcropping in the Llano uplift of Texas, and possibly also indicated by the positive gravitation anomaly at the mouth of the Rio Grande.

"Similar conditions evidently prevail in the underground of the Yucatan peninsula, as indicated by outcrops in northern British Honduras, north of Belize.

"It means most probably, consequently, that the entire Gulf of Mexico and its coastal regions are underlain by an old shield, the center of which was broken down and subsided. The Cordilleran folding indicates this obstructive presence most clearly by sweeping around it in an enormous arch.

"THE folds coming down to the south, along the west coast of Mexico, bend sharply to the east and northeast, through Guatamala and Honduras, sweeping through Cuba, Santo Domingo, Porto Rico and the Windward Islands, the great loop returning through Venezuela and retaking its north-south course in the South American Andes, until it makes a second similar swinging loop in the Magellan region, before the folds cross into the Antarctic where they resume their predilected north-south trend.

"The Bahama and Florida plateaus evidently are the butoir foreland of the Cuban arch in a similar way as the mass of Ralmaheira, New Guinea and the Aroe Islands acts towards the outer Molukkan arch of Boeros-

Coram-Tenimber and Timor in the East Indies, although, of course, it is of vastly different build.

"This rigid nature of the foreland is indicated by the absolute absence of any warping or folding in Florida. There is a most gentle doming of the beds in the northwestern part, reaching its broad apex in the Oligocene and Ocala outcrops of Marion, Citrus and Hernando counties, but this cannot be called warping. Also, the geological history of the Florida plateau during the later Tertiaries is indicative of comparatively quiet small oscillations of level but never of folding.

"Of course, where the sinking of the basin has been very considerable, as in the Gulf itself, and along its northern shores in Texas and Louisiana, there may be expected with certainty considerable stress, leading to marginal folds, as we find them in all deeply depressed basins. The upthrust of the coastal saline domes (in Texas and Louisiana) must have been affected by such stresses on salt lenses in the Eocene. This stress, however, cannot affect the Florida peninsula, nor scarcely the northwestern extension of the state along the Gulf Coast.

"Thus, there being very little reason to expect 'structure' in Florida favorable to the accumulation of oil the stratigraphy also is most unpromising."

THE report discusses geologic history of the Florida plateau in Tertiary and Pleistocene epochs as follows:

"Eocene and Oligocene conditions were a sea, with clear, very shallow water and a tropical climate. Calcareous deposits, chiefly foraminifera, accumulated to a thickness of 100 to 200 feet near the northern land and exceeding 1500 feet at Key West, in the south. It is unknown which Eocene strata below the Jackson were reached in Key West drilling but the facies did not change from the top of the Eocene at 850 feet until the final depth of 2400 feet.

"The older Tertiary beds are uniformly fine grained and show very little variation in composition. There is a predominance of limestone, though sand and clay occur in small quantities; and the percentage of these impurities increases in the upper beds of this age.

"Towards the close of the period there appears to have been a shoaling of the sea, with the entrance of fresh water shells and more land derived sediments. The oscillating elevation finally culminated in large areas of dry land and erosion during the Upper Oligocene period as far south as Tampa and perhaps farther.

"The younger beds form but a comparatively thin veneer over the massive limestones of the older Tertiary. Even on the extreme southern rim of the plateau, at Key West and at Marathon (on the Vaca Keys), the Ocala limestone was sure to have been reached at 860 and 700 feet, respectively, as indicated by Eocene fossils recovered from these depths.

"Younger formations are the deposits of very shallow seas, or estuaries, alternating with uplift, causing land conditions and erosion. Evidently the plateau has been very little changed, small oscillations causing shifts in the shore line and consequent changes of deposition."

New Jersey Oil Men Enjoy Sports and Shore Dinner

NEWARK, N. J., Aug. 1.—Boating, bathing and baseball, topped by an old-fashioned shore dinner, formed the chief events of the outing of the New Jersey Oil Trade Association on July 27 at Green Gables, Pleasure Bay, Long Branch, N. J.

About 120 members and guests of the association attended. The earlier arrivals were taken for a motor boat ride on Shrewsberry River to Seabright where surf bathing was the attraction. Those who came later played baseball and reports have it that there was plenty of wild hitting and even wilder fielding.

A shore dinner was served at 7 o'clock. To the tune of many a watermelon, "Jolly Bill" Steinke of the "Newark Ledger" entertained with life-like cartoons of prominent members of the association who were present. George M. Henry, chairman of the publicity committee of the association, of the Henry Oil Co., Morristown, N. J., talked on the 2-cent gasoline tax which went into effect in New Jersey on July 1.

J. H. Chambers, of the Co-Service Oil Co., Newark, and secretary of the association, was in charge of arrangements for the outing. A. Phillips, National Oil & Supply Co., Newark, was in charge of arrangements at Green Gables.

Makes Customer From Former Employee

HOUSTON, July 29.—F. L. Rogers, in charge of sales for Deepwater Oil Refineries, Inc., Houston, believes in keeping a string on his salesmen. If they must leave his organization, he says, he makes customers out of them. Joe Robertson, who handled Texas-Louisiana territory out of Dallas, has organized the Lubricating Oil Stores at Dallas, handling Deepwater products. He has been succeeded in the sales territory by "Bob" Rose, previously with General American Tank Car Corp., and before that widely known in marketing circles at Tulsa.

To All Refiners Interested In Reducing Operating Costs

Gray Bulletin No. 2 in the July 27th issue of National Petroleum News was of special interest to REFINERY CHEMISTS. It showed the superiority of Vapor Phase Refining compared to acid treating from a Chemical Point of View.

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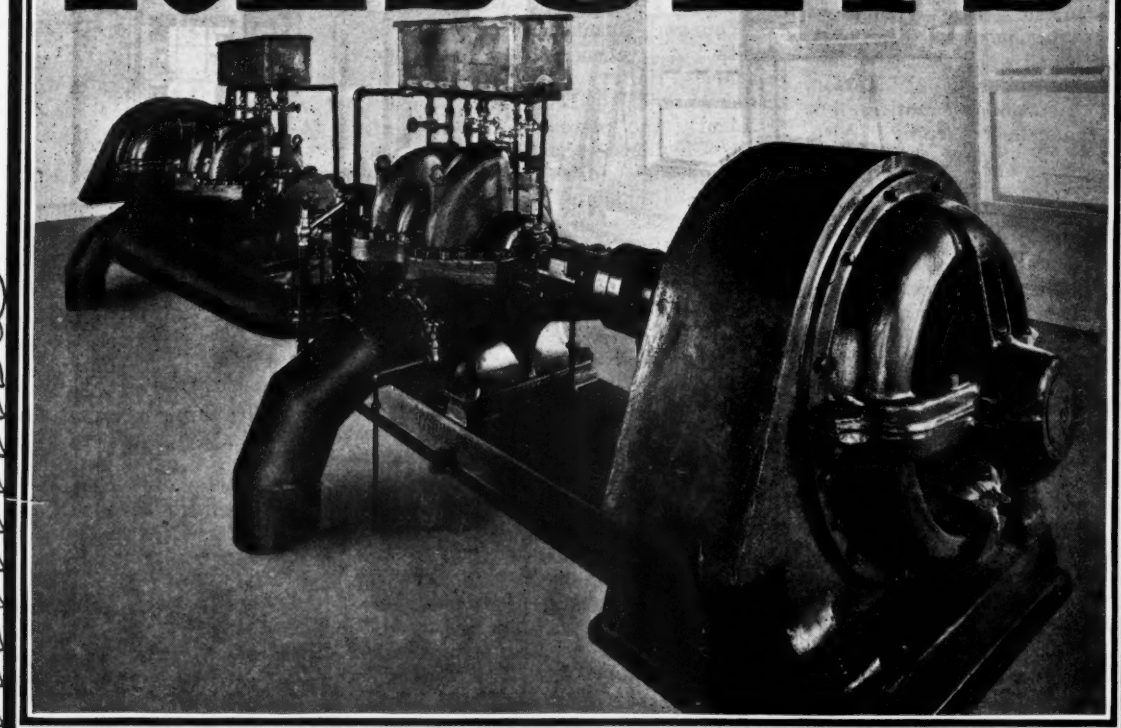

[Byron Jackson Installation Oklahoma Pipe Line Company, Henryetta, Oklahoma]

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In one station 40,000 bbls. a day pumped against 700 lbs. pressure for a total cost of $4.61 per 1000 bbls. This comprises all station costs, including interest and depreciation on investment, taxes, insurance, repair and maintenance, attendance, power, lubricating oil, etc.

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Tapering of Atchafalaya river banks is always necessary at pipeline crossings, where the lines are kept above ground to prevent their being sheared off by great slides of silt deposits. With the passing of the great flood in the lower reaches of the Mississippi valley, the Atchafalaya banks must be reconditioned this way.

Oil "Detoured" By Pipeline To Keep Refinery Running Constantly

By Paul Wagner
N. P. N. STAFF WRITER

SHREVEPORT, La., July 29

IT IS USUALLY possible when a great disaster paralyzes some part of a railroad system to detour through passenger traffic and mails via branch, or connecting, lines Normally, a complete cessation of operations in the affected division would follow a disaster of similar magnitude involving pipeline transportation of crude petroleum.

Most pipeline managements would have found their difficulties insurmountable had a disaster such as the Melville, La., break in the levee, which turned the Atchafalaya river torrents across their properties and inundated them with 12 to 15 feet of water. Not so, the Standard Pipeline Co., Inc., which all through the recent flood period kept the Baton Rouge refinery of the affiliated Standard Oil Co. of Louisiana supplied with crude for constant operation.

Small stocks of crude were on hand at the refinery when pipeline transportation was disrupted at Melville by the Atchafalaya river crevasse. These stocks were used for plant runs while the Standard pipeline got under way its plans for the rerouting of crude from the Shreveport district, via Homer, Haynesville and El Dorado to Smackover, thence through a 10-inch system the Standard operates to Grand Lake, Ark., on the Mississippi river. There, the oil was loaded on barges for river transportation to Baton Rouge.

The Standard pipeline took care of Oklahoma shipments and runs from the north Louisiana-south Arkansas fields by utilizing storage in the Shreveport district and by diverting the balance, amounting to about 50,000 barrels of crude daily, through the rearranged routing to Smackover and Grand Lake.

When the flood was at its crest in the Grand Lake region the entire barge line of the Standard was placed in refugee service and all movements of oil suspended. The main pipeline system had not been disrupted, however, at that time. As the flood waters passed on down the Mississippi and after the Melville crevasse in the Atchafalaya the boats were returned to the Grand Lake crude movement.

The Grand Lake movement is still being maintained, but as fast as pipelines are restored to operation on the south end of the Oklahoma-to-Baton Rouge system the quantities of crude transported by boat are being correspondingly reduced.

FOUR of the seven Atchafalaya lines went out at the time of the Melville crevasse, which was graphically described on page 28 of the June 29, 1927 issue of this periodical by J. C. Chatfield, staff writer. A fifth line was lost three weeks after the break, because of the continued wash of the crevasse waters.

Use of one of the remaining good lines was prevented for a time because of trouble with leaky valves in the manifold at the Melville station. However, by driving cofferdams around the plant it was possible to repair the valves. The two ends of one of the broken lines were recovered in similar manner and the Standard now has three of the total of seven in operation. Through shipments are being made to Baton Rouge by pumping past the Melville station, which will not be operated for an indefinite time.

The crevasse occurred about 3000 feet east of and directly opposite, the station. In consequence, the main flow of crevasse waters was directly across the Standard's property. The company not only had to contend with the water, which reached a depth of 14 feet, but the entire property is still submerged in silt deposits of six to 12 feet, filling the pump station, reservoir, residences and all main buildings.

Water still stands about seven feet deep on the plant proper; and this will remain there until the crevasse in the levee is closed, stopping the flow to the lowland and confining it to the river channel, or until such time as the river stage drops six or eight feet below its natural bank. This is for the reason that the crevasse waters cut a channel through the bank approximately 15 feet deep.

BREAKS in the Standard's pipeline were about six miles east of the Atchafalaya at points where the crevasse waters from the McCrea break moved on and crossed the company's right of way. The waters moved south from the break and were momentarily impounded by the Texas

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& Pacific railroad fill, or embankment, at numerous places. After the water started flowing across the Texas & Pacific tracks it washed out completely the railroad embankment for distances ranging from 150 feet to 300 feet wide.

The great volumes of water flowing through the breaks in the fill created, in a sense, new river channels, washing to depths of 12 to 15 feet under the Standard's pipelines. These lines were not, of course, of customary river crossing construction and broke because the long spans would not hold their own weight.

It is pointed out as significant by F. Ray McGrew, vice president and general manager, that no river crossing line of the Standard went out, despite the grief brought about by the flood.

The Standard maintains four lines across the Red River north of Texarkana, four lines across Red river south of Shreveport, seven across the Atchafalaya at Melville and six across the Mississippi at Baton Rouge. All are of special river construction, which withstood the flood at regular crossing points without damage.

Silt bottom conditions in the Atchafalaya region are described as being in a class absolutely of their own. Trouble was experienced in dealing with these conditions in the early days of the Standard's pipeline operation through the territory, but the problem was worked out and, except for the present Melville situation, no unusual grief has resulted.

AN ACCOMPANYING picture shows the condition lines are kept in during low water stages of the river. All are exposed and kept entirely on top of the ground. That is done for the reason that great slides in the banks take place from time to time. The formations of the banks being composed of silt deposits they stand very perpendicular, and will not support their own weight, after flood waters.

Caving sometimes carries several acres of material away and large, mature trees slip into the river. By keeping the lines above the surface, these cavings do not sheer them off as would be the case if the lines were buried.

After a flood water period it is necessary to begin sluicing operations immediately at points of pipeline crossing to remove deposits that have accumulated and to taper the banks. Tapering is done to eliminate the tendency of the banks to cave. This procedure must be followed in the present case, as excessive deposits on batture lands resulted from the river being at flood stage for so long a period.

The sluicing process is carried on with a high pressure diesel-driven pump erected on a barge, which is kept at the Atchafalaya river crossing continuously.

In sluicing the silt deposits from the Melville pumping station grounds, the natural currents from the many channels leading through the property are being turned into the various buildings. It will be possible thus to utilize the flood waters in carrying away many tons of deposits, but there will remain many other tons to remove by teams and slips.

ONE of the most difficult obstacles contended with in making pipeline repairs in the Melville territory was the problem of transporting men, necessary materials, provisions and camp supplies. All supplies and material usually held in readiness for such an emergency at Melville were completely submerged. Because of close proximity to the crevasse, the vicious currents and the heavy silt deposits it was impossible to recover pipe stocks, tools or equipment.

After the first crest of water had passed and repairs to the lines were attempted it was necessary to move in all supplies, materials and labor from Washington, La., some 40 miles away. These were moved down the Bayou Catawba to Port Barre, thence over the Opelousas & Gulf railroad right-of-way to destination on small barges towed by skiffs with outboard motors, and other small gasoline propelled craft.

The problems of transportation were made more difficult because of cross currents from crevasse waters of Bayou de Glase breaks.

A 1500-foot artesian flow water well at the Melville station provided pure and wholesome water for drinking. Connections were made above the flood waters and throughout the deluge this artesian well was an oasis free from the contaminations all about.

Wholesale Prices Are Lowest Since War

WASHINGTON, July 30.—The dollar volume of trade in the week ended July 23, as seen from data on check payments, although smaller than in the preceding week, was larger than in the corresponding week of last year, according to the Department of Commerce. Wholesale prices declined from the previous week, reaching their lowest level since the war. Prices for cotton, however, continued to average higher than in the previous week, but were still below the corresponding week of 1926. While prices for iron and steel averaged the same as in the previous week, the price level was lower than a year before.

Loans and discounts by Federal reserve member banks showed no change from the preceding week, but were higher than in the corresponding week of last year. Interest rates on time money averaged lower than

in the previous week, but were higher than in the same week of a year ago. Bond prices showed practically no change from the previous week but were higher than in the same week of the previous year. Stock prices again advanced, both as compared with the previous week and the same week of 1926. Interest rates on call loans declined from both comparative periods. The Federal reserve ratio advanced.

Production of bituminous coal in the week ended July 16 was larger than in the preceding week, but considerably smaller than in the same week of 1926. Lumber output was larger than in either comparative period, the increase over a year ago being the first registered this year. The production of beehive coke was smaller than in either the previous week or the corresponding week of 1926. Receipts of wheat at primary markets were larger than in the previous week, but smaller than last year. Cotton receipts were substantially larger than a year ago. Receipts of cattle at primary markets were smaller than a year ago, while hog receipts showed an advance over the same week of 1926.

Manufacturing production in June was smaller than in May, after adjustment for working-time differences. As compared with a year ago, however, industrial output was greater. With no adjustments for varying number of days in the month, production of foodstuffs, textiles, lumber, leather, stone and clay products, nonferrous metals and tobacco, showed increases over the preceding month. As compared with a year ago, larger production was registered in foodstuffs, textiles, chemicals and oils, stone and clay products and tobacco. The production of raw material although smaller than in May, was greater than in June, 1926, all groups increasing over a year ago except forest products, which declined.

Stocks of commodities, after adjustments for seasonal variations, showed no change from the previous month, but were higher than in June a year ago.

CLEVELAND, July 30.—Joseph A. Jones, who has been representing the Gittins-Gwinn Co., of Columbus, O. in the Cleveland district for some time, has been appointed manager of the company's recently opened offices here in the Union Mortgage Bldg. Mr. Jones was formerly with Spencer & Petroleum Co., John A. Anderson, and Gustafson & Spencer.

NEW YORK—George A. McDonald, salesman out of the New York office of the Atlantic Refining Co., is celebrating the birth July 27 of a 10-pound son. Mr. McDonald travels through New York state and New England.

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Gravity	28½-29	29-29½
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Attractive and serviceable cases of black cobra grain Keratol and lined with red velveteen. Comfortable hand e. Plain bottles in separate compartments.

No. 260—Contains twelve 2-oz. long bott'es and five ¼-oz. tall grease jars..... **$3.20**

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No. 262—Contains seven 4-oz. bottles and five grease jars..... **$3.20**

No. 263—Contains nine 4-oz. bott'es and four ½-oz. grease jars..... **$4.25**

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TULSA, OKLA.

Experienced Oil Man Is For Bulk Storage Station Sales Policy

AN OPERATOR'S viewpoint concerning the bulk storage filling station—the station that receives its gasoline supply by tank car because it is situated alongside or close to a railroad—is expressed in a letter to NATIONAL PETROLEUM NEWS by an experienced oil man who for the last year has been interested in such a station. The writer wishes to keep his identity from the oil public. His letter follows:

"For two or three years I have been awaiting the publication in the News of just such an article as appeared in your News of July 6 on "Cash and Carry Gasoline." This is by no means a new topic but you are the first to have had the courage to treat with it in print. I certainly hope that you develop the subject as thoroughly as it deserves because it will undoubtedly correct a great deal of misapprehension that is within the industry.

"Having watched the development of that type of business and having been personally interested in it for more than a year, I feel that I am very well informed on the subject.

"First, I believe you will concede that I am correct when I state that this form of merchandising gasoline was originated by Larkin Co. in Buffalo about 1921. Mr. Wolfe of Piqua, O., was several years behind Larkin. Larkin probably got into this type of business more or less by accident, or at least by accident they came to appreciate its possibilities. I believe they originally intended to service only their own cars and those of their employes but the idea went over with such a bang and they got so much free publicity and the business was so profitable that they extended its scope. It must be apparent that Larkin Co. have what is probably the most profitable investment in the distributing end of the gasoline business if net profits are considered against dollars invested. In other words, they probably make the highest percentage of net return of any contemporary gasoline distributor.

"The Larkin idea was quickly taken up in Buffalo and is spreading rapidly all over the country. Of course, Larkin enjoys the benefit of a national reputation and a public following which most other companies cannot get, even though they follow precisely the same practice. Larkin sells good merchandise on a cash and carry principle strictly. At first they seemed to disregard the fact that filling stations might best be well located but except for the original Buffalo station, the others are all on good thoroughfares. It seems to be true that the public will go considerably out of its way to get gasoline at reduced prices but I presume even a greater volume will follow the price if the station is well located.

"Larkin sells for cash only. They thereby eliminate bad debts and the cost of bookkeeping which, I assure you, is a considerable item. They have no tank wagon expenses which is another big item. I judge from my own experience that they have practically no evaporation loss. They are able to attract an enormous volume through each station and thereby reduce the cost of turning the crank from something like 3 cents per gallon or probably more to a figure that looks more like ¼ or ½-cent per gallon. It is apparent that a filling station which sells 5000 gallons per day can be operated with only a little more expense than a station which sells 500 gallons per day. If, for example, it costs 3 cents to turn the crank on 500 gallons per day (and I assure you that this estimate is decidedly below the actual cost) it is obvious that it costs less than ½-cent per gallon on 5000 gallons per day. If you will go to the trouble to total the various savings that are effected by Larkin, you will see that they can operate profitably several cents per gallon below the old type of competition.

"Larkin has been criticized in no gentle terms by oil men all over the country and it is my opinion that this is an injustice. Larkin should on the other hand be given credit for having taught the industry how economically to sell gasoline.

"This letter seems to make free use of Larkin's name but it is only because they are the originators of the outstanding example of successful operation. I might point to numerous other companies who do very well indeed. Take for example the case of the Buffalo Grey Auto Stations, Inc., who began about three years ago and now have 14 or 15 stations in actual operation. They are not all located in Buffalo. Some of them are operated under the names of affiliated companies and the stations are spread from Detroit, to Philadelphia. The locations are selected on their merits and it appears to make little if any difference whether they are all located in one town or in a dozen towns. I might mention also the Southern Oil Co. of Horseheads, N. Y., which has during the past year or two been extremely active in acquiring a bulk filling station business.

"So far as the activities in which I am interested, we have to date constructed three stations and plan to have two more in operation by the

middle of August. They are located in three different states and only one station in each town. We have no stations in Buffalo or immediate vicinity because it is our opinion that one of the most important factors is that the stations shall be so located as to avoid possibility of competition of the same kind which is the only type we fear. Some cities like Buffalo are so laid out with railroads intersecting important thoroughfares that there are numerous possibilities. Other cities can have very few stations of this type. It would seem to indicate that some communities will hereafter have markets lower than others.

"The growth of this idea has impressed me with the fact that there are two distinct methods of merchandising gasoline, both of which are probably correct but decidedly opposed in many respects. Let me by way of comparison mention the old type of grocery store which charges the highest price the traffic will bear, extends credit, makes deliveries, and does a rather small volume of business. The cash and carry stores operate on principles which are quite opposite and do so successfully and meanwhile give their customers the benefit of many savings. Perhaps the old line of gasoline company having tank wagon, charge accounts etc. is more nearly similar to the type of business conducted by the big department stores as compared with the smaller chain stores like J. C. Penny & Co., the Grant Stores or Woolworth. Some customers don't care much about economy but want the maximum of service. Others prefer to save a penny here and there even at some inconvenience. They all want good merchandise and in the gasoline business both types of retailers can give it to them.

"There is another feature which may very well be considered even by the so-called cut price stations. Every large city has its big Independent marketers who operate 10 or 15 filling stations but until now have conducted their business on the theory that the public wants accommodation rather than price. It is quite possible in my opinion that many of these companies will radically change their method of operation to conform as nearly as possible to the cash and carry principle. I believe without going into detail that such companies as discontinue charge accounts, largely discontinue garage customers and get right down to business, can operate within one-half cent a gallon of the bulk filling stations expense. They might even go so far as to cut down their advertising and other big items which can be largely avoided by cash and carry methods.

"I think there has been a perfectly natural tendency on the part of the industry and publications representing the industry to criticize the price cutter without fully examining the circumstances. If a filling station is operated under a business policy which permits it to undersell its competitors while at the same time give as good service, sell as good merchandise, make as creditable appearance and generally be a good representative of our industry in its contact with the public, I think it is good business to cut prices if thereby the net profit is increased. I have experienced or witnessed several instances where this occurred."

Compact Pagoda Service Station Designed For Irregular Site

Texas Co. station recently opened at Dallas on the Fort Worth-Dallas pike.

Staff Special

DALLAS,

A NEW service station of unique design was opened by the Texas Co. in Oak Cliff here on June 4. The new sales unit sold 5,399 gallons of gasoline and 246½ gallons of motor oil on the opening day without the assistance of any advertising. Since then its gallonage has surpassed all other individual stations operated by the company in Dallas.

The new station is located at the intersection of three important streets, Kings Highway, Davis and Tyler streets. Past the station streams the heavy motor traffic between Dallas and Fort Worth.

The site for the station is an irregular quadrilateral. Due to the fact that three streets intersect at the point the site actually is an island 118 by 111 by 48 by 23 feet. It was necessary to design a special type of building for the plot in order to provide sufficient office and display room and at the same time make

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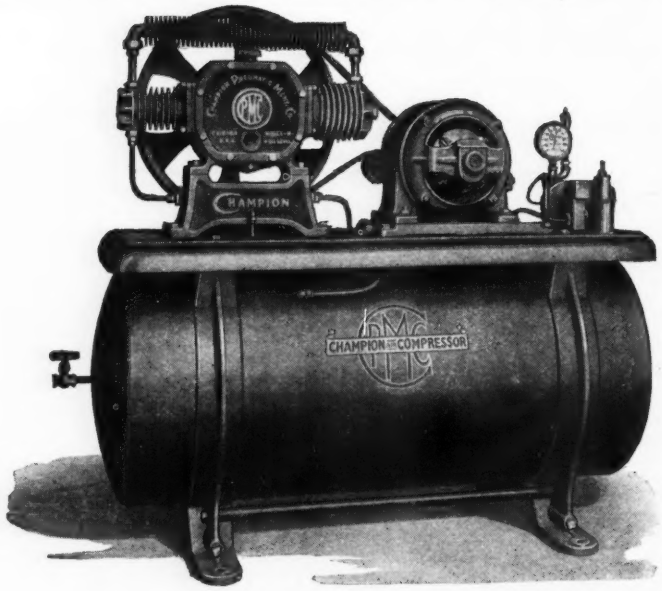

N-25 Automatic Two-Stage, Ball-Bearing Compressor

THIS unit with a displacement of six cubic feet, is specially designed and built to take care of the increasing requirements for higher pressure and greater volume.

This equipment is especially recommended for the larger type filling and service stations—for the inflation of bus and truck tires—the operating of high-pressure greasing systems—the operating of air tools for repair work, etc. By use of a reducing valve it will operate one No. 105, or any of the larger type, paint spray guns for intermittent service.

The compressor is equipped with a 1½ H.P. motor and 60-gallon tank and will maintain a constant tank pressure of between 140 and 180 lbs.—200 lb. maximum working pressure.

In all, the N-25 is the compressor for high pressure service.

N-25 embodies all the improved features of the well-known Champion line, including "Annular Ball Bearings" on the crank shaft. The compressor runs at a slow rate of speed and is quiet in operation. Comes completely equipped ready to operate.

Champion also builds—

Single and Two-stage automatic compressors in all standard sizes and style.

Service Towers in four styles.

Car Washers in two sizes.

Paint Spray Units in two types. Write for separate bulletins.

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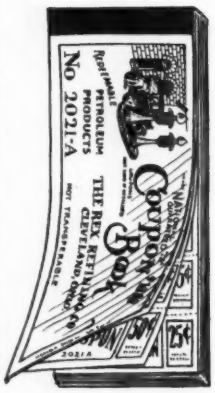

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NATIONAL CHECKING CO.
271 Chestnut St. **St. Paul, Minn.**

access to the pumps and greasing equipment easy and attractive.

THE new station building is an eight sided pagoda adapted from oriental architectural ideas as illustrated in the accompanying photograph. It has a tile covered canopy roof extending out over the drives in all directions and a smaller cupola over the center of the building to follow out the oriental design.

An unusual feature of the station is that it may be approached by motorists in any direction since there are no pump islands on the site which has been completely and smoothly concreted. At each of the eight corners of the building is a 10 gallon visible pump mounted on a continuous concrete step for protection against careless drivers. Between the pumps are oil dispensers and air connections.

A basement was dug under the station to house air compressors, lubricating oil storage tanks, odds and ends of equipment and employees' locker rooms. The design and arrangement of the station appears to be an ideal one for an irregular lot of the type available at this particular point.

Airplane Endorsed as Aid To New Business

CHICAGO, July 30.—The future commercial application of the airplane is looked upon by L. V. Nicholas, president of the Independent Oil Men of America here, as another opportunity for Independent oil men to begin now to build up a business which will serve the country's airports with a specification grade of aviation gasoline to be sold under the guarantee of the "Spread Eagle" emblem of the I. O. M. A.

Mr. Nicholas in his weekly letter to members, points out possibilities of creating a new market for Spread Eagle gasoline, as a result of his recent meeting at Minneapolis with R. J. Coughlin, of the Westland Oil Co., Scobey, Mont., a member of the I. O. M. A., who does all of his traveling by airplane. Mr. Coughlin has made the trip from Scobey to Minneapolis, which ordinarily requires two days and almost two nights by train, in one day.

Mr. Nicholas returned to Chicago in an air mail plane which made the trip in four hours running time.

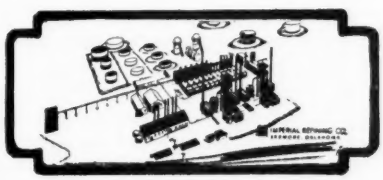
CORAOPOLIS, Pa.—F. F. Lamont, who has been with The Texas Co. for the past ten years, during seven of which he was salesman in Trenton, N. J. territory, was transferred on Aug. 1 to the Pittsburgh, Pa. zone as representative.

CONFIDENCE

We have written a good many letters during the life of our business and we have grown mighty particular. Perhaps you have found, as we have, that although a letter is an inanimate thing of paper and ink, it can be made by study and subtlety of wording to breathe the personality of the sender and his genuinely human desires—but it is beguiling—unless you are careful it may frown when you want it to smile—and that is just a point of this frank discussion with our customers.

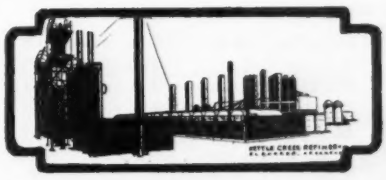
We deal with you very often at long range. We are doing our utmost to please you always. If we could step right out of our office into yours, we could say "Hello Bill" with a sincere ring in our voice and a friendly smile, but convention decrees when we write you to say "Dear Sir"; and that goes for friends and strangers; or when we wire, you are not even saluted.

Please accept our assurance that the Imperial Oil Marketing Company is a human organization and invites you to come to it without reserve.



SPECIFICATIONS

60/62 gravity W.W.D.T. better than U.S. Motor Specifications gasoline
58/60 gravity W.W.D.T. better than U.S. Motor Specifications gasoline
55/57 gravity special Anti-knock cracked gasoline
U. S. Motor specifications — 25 Benzol equivalent
Color guaranteed 21 or better at destination
42/44 gravity W.W.D.T. Kerosene
Flash 130-150 Cleveland open cup
Fire 155-175 — E.P. under 600
38/40 gravity clean light straw furnace distillate
Flash 150-175 Cleveland open cup — Fire 170-195
Sulphur—less ½ of 1% — Cold test—below zero
Odor—sweet (acid treated)
28/30 gravity straw gas oil
Flash—225-235 Cleveland open cup — Fire—243-255
Sulphur—under 2%
Cold test—below zero — Odor—sweet
14/18 gravity refinery fuel oil, under 225 visc. Furol
18/20 gravity Smackover crude oil
Road Oils — Petroleum Coke



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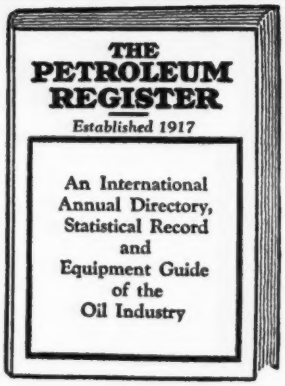
ARDMORE, OKLA.

KETTLE CREEK REFINING CO.
ELDORADO, ARKANSAS

All sales handled through our own sales division

IMPERIAL OIL MARKETING CO.

ATLAS LIFE BUILDING
TULSA, OKLAHOMA



The Petroleum Register 1927

is now off the press, with hundreds of new listings. It combines in one book the following:

A comprehensive directory of equipment used in the oil business, with names and addresses of manufacturers and dealers.

Refiners—officers, capital stock, properties, summary of latest financial reports.

Producers—thousands of companies engaged in producing and exploring for oil.

Marketers and Jobbers: A new arrangement this year, listing companies alphabetically by states; also grease manufacturers, pipe line companies, natural gasoline manufacturers, drilling contractors and foreign companies.

Personnel Department: Alphabetical directory of executives of leading oil companies and their positions; reproduction of lease forms used by producers and prospectors.

Important new features: Obsolete oil companies, full roster of American Association of Petroleum Geologists; complete list of tank steamers and fuel oil bunkering stations.

Gasoline plants; Trade names of leading brands of petroleum products; Secretaries and headquarters of oil associations.

610 pages of important information for oil men, banks, brokers, manufacturers and equipment dealers.

National Petro'eum News
Room 701, 1213 W. 3rd St.
Cleveland, Ohio

Here is my check for $10 for the June 1927
PETROLEUM REGISTER

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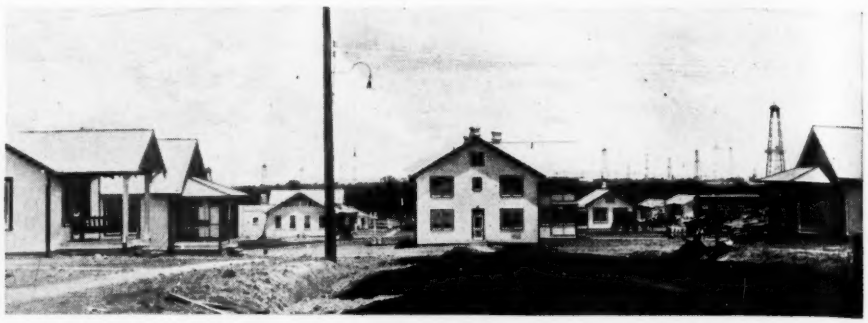
I.T.I.O. Walker Camp at Bowlegs A Modern City in Itself



Carter Oil Co. well on Lukes farm, Seminole field, Okla., equipped with horizontal pumping unit. N. P. N. Staff Photo.

TULSA, July 29

INDIAN TERRITORY ILLUMINATING OIL CO., leading operator in the Bowlegs field, and second only to the Carter Oil Co. in total Seminole district production, has completed and is occupying its Walker Camp in section 15-8-6. The camp is located in the heart of the Bowlegs pool, centrally located to all I. T. I. O. properties, and convenient of access to the older development at Seminole and to the newly-discovered Little River pool in 1-7-6.

A central office building, two stories in height, with offices downstairs and sleeping quarters upstairs, dominates the camp, being set on a large circular plot with concrete walk running all the way around it. Streets of the camp radiate from this point as a center, with the principal thoroughfare running east and west.

West of the office building are cottages for married employes, district foremen, etc., one of the accompanying pictures showing the design of these cottages. East of the main building are a number of bunk houses for unmarried men. Second floor of the main building is fitted up as sleeping quarters for men in charge of various departments.

Northeast of the main building is the dining hall, where the men are boarded at reasonable rates. This hall is equipped with all modern and sanitary conveniences and is kept scrupulously clean. Other buildings include a large garage, warehouses, and community club house. The camp is thoroughly equipped with electric lights, gas, sewerage, and running water.

All roads in the camp have been graded and oiled and are as good as most city streets. Sidewalks have been built the full length of the streets and to all buildings. A road has been built from the main north and south road about a half-mile west of the camp, leading directly to the main office building.

Six months ago the site of this thriving oil city was quiet countryside, far removed from oil and almost everything else. Today the Bowlegs field is making nearly 200,000 barrels of oil. The I. T. I. O. Co. has 36 wells in this field making 61,500 barrels daily, and has more than 67,000 barrels in the entire district.

Farmer, Cattle Raiser, Oil Man—Now He's Politician

PLAINVIEW, Nebr.—Going west when he was young may have helped George M. Story, a native of New York, and now service station proprietor of Plainview, Nebr., to become, in turn, a successful farmer, cattle raiser, oil man and politician.

Mr. Story has been in the oil business since June, 1920 when he first built his service station in Plainview. In the last November elections, he was elected a member of the Nebraska state legislature for Pierce county with a good majority, without aid of slush funds, nor even speeches on his part. He enjoys the distinction of being the only Nebraska oil jobber in the state legislature.

Avoiding wide margins and the maintenance of a more uniform price in the oil business, are suggestions offered by Mr. Story for improved marketing conditions. He believes that this would prevent some price cutting and that it would also prevent people from believing "we are all getting rich."

Mr. Story was born in Cortland county, N. Y., and at the age of nine years, in 1870 moved to Linn county, Iowa. In 1886 he moved to Nebraska where he engaged in farming and cattle raising near Pierce, in Pierce county. He raised pure bred shorthorn cattle and Poland China hogs. Mr. Story sold his farm and cattle when he entered the oil business.

Benner Handles Lubricant Sales for Galena

Staff Special

HOUSTON, July 21.—Official announcement is made of the appointment of R. E. Benner to be manager of lubricating oil sales, Southern division, of the Galena Signal Oil Co. of Texas, with headquarters at Houston. Mr. Benner has returned from New York, where he spent a week in conference with F. D. Gatchell, vice president in general charge of sales.

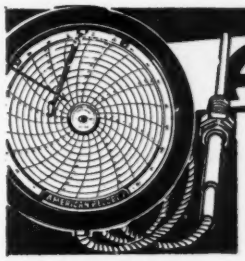
R. E. BENNER

Mr. Benner's connection with the Galena Signal dates from July 1, last, although details of his new position were not worked out until more recently. He had been previously sales manager for seven years of the Keen & Woolf Oil Co., at Houston, his resignation from that organization taking effect June 1, last.

Britain Seeks New Fuel

WASHINGTON, July 30.—As an encouragement to the automobile industry in Great Britain to find a substitute for gasoline, the government has announced that it will subsidize a new company just created, known as Fuel Utilization, Ltd., contributing £100,000 toward the study during the next three years. The company will operate works at Richmond, Yorkshire, making a study of synthetic gasoline or gasoline substitutes to combat the high price of motor spirits in Europe.

SPRINGFIELD, O., Aug. 1.—Metal polish is used to keep shiny caps and spouts of oil bottles at stations of the Refiners Oil Co., Dayton, in the Springfield territory.



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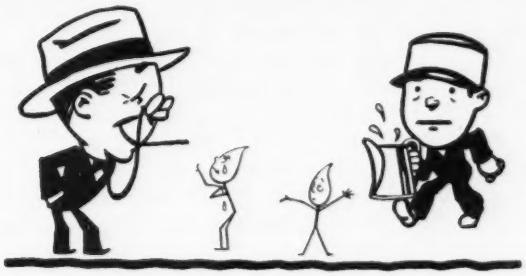

"Quart of oil" we heard
him say
Demand Penn-Empire
It will pay

" 'Demand Penn-Empire' it will pay "applies just as much to the oil jobber as to the motorist himself.

For Penn-Empire, 100% Pennsylvania Oil, Sharples-processed, is a live seller on a quality basis.

You'll be conferring a big favor on yourself if you ask us for a sample. We'll be glad to send you one, together with a copy of our newest little booklet "Penn-Empire Oil Drops."

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EMPIRE OIL WORKS INC. OIL CITY, PA. PENN EMPIRE 100% PURE PENNSYLVANIA OIL

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Gasoline
Petroleum

"When You Buy Penn-Empire You Get The Best"

The Editors' Viewpoint

National Petroleum News

Credit Adds To Cost of Selling

THE granting of credit by the oil industry at least in some parts of the country, seems to be increasing. Unfortunately, some of this increase seems to be at service stations to the small consumer.

One big company reports that in the several states in which it operates bulk and service stations, that 30 per cent of its gross sales at service stations is credit business. A good part of this is for companies operating trucks, but nevertheless an increase in charge business to the small consumer is noticed.

In various territories particularly throughout the west, this charge business is being increased by the offer of so-called "Courtesy Cards" to the individual automobile owner. There seems to be no definite policy on this either by the big or the little companies, but the practice seems to be increasing.

The only excuse for credit is to permit a man to turn over the material which is sold him and collect in his money and only this, in the event that he has not sufficient capital to carry himself. Another use for credit is to permit the individual purchaser to forego the bother of carrying a considerable amount of money on his person as is necessary when he pays cash for goods. In this case it is a matter of convenience.

But we are unable to see where any business is helped or any convenience is given in the granting of credit on gasoline and lubricating oil sales from service stations to the individual automobile owner. The amount of that owner's purchase at any time is negligible. If that owner hasn't got $2.50 or $4 in his pocket, it is high time that he stayed home and kept the car in the garage until he has accumulated that much money.

There is no convenience to the user of that kind of credit because it is more bother to check a long list of purchases of gasoline against individual tickets and to make sure that the price is right than it is to pay cash as you take out the oil and gasoline. And we have this admission from some men who have had the privilege of enjoying, so-called, that credit service. In fact, one man said that all that giving him credit had done was to make him realize that he was spending more money than he thought he did on his oil and gasoline. He had noticed a tendency on his part to hedge a little bit in the use of gasoline since that time.

Wherever the so-called "Courtesy Cards" are coming out, they and the situation generally can be met best by a frank statement of the facts and these facts any right-minded person will be only too willing to accept. The oil company opposed to the "Courtesy Card" proposition and yet confronted with it, could very properly set forth in advertising space and literature, that "Courtesy Cards" add to the cost of the goods, that while a man may pay the same price whether he has it charged or pays cash, nevertheless, the man with the charge account represents more cost to the company and it means that the cash man is helping to pay for that extra cost.

It may be argued in support of the charge business, that it helps retain customers. If the station is handy enough and good enough the buyer is going to patronize it pretty much anyway.

Where a charge business to the individual owner is conducted, it means the posting and billing of sales down to 50 and 75 cents. There is a fixed cost to doing this work that must be included in any consideration of the value of this kind of business. One has not only the necessary entering and billing but the possibility of loss.

It would be a fairly simple matter to lose $10 in a lot of credit charges and yet $10 represents a full 1 cent a gallon on 1000 gallons of gasoline. It might very properly represent the margin of profit of a station for several days.

The Standard Oil Co., in the old days had its business, particularly at service stations, pretty much on a cash basis. There is no reason why it shouldn't be on a cash basis today. It will be if every marketer, from the Standard companies down, bars this type of credit business.—W. C. P.

Respect Competitors, Refiner Urges

"OIL companies should respect the ability of their competitors and not attempt to discredit them in their sales and advertising, "so writes a prominent refiner and marketer of this country in regard to the advertising of a well-known motor oil.

That motor oil has not always been as carefully advertised as it might be and we have commented a number of times thereon. However, it is improving.

The particular phrase to which this refiner objects in a recent ad is as follows:

"Laboratory tests repeatedly prove that blank oil gives unusual freedom from carbon deposits. In one case two gallons of blank oil were used in a trial run of a famous engine. Then two gallons of another oil—a well-known brand—were used. Conditions were identical. After each run the carbon was scraped out and weighed. Blank oil left 15.85 grams of carbon. The other oil left 28.55 grams of carbon."

While the foregoing tests may be true and fair and it may be true that anyone else making the test would come to no other conclusion, yet every oil man knows that tests of lubricating oil are not always absolute and every oil man knows that certain variations in those tests are not proof conclusive by any means of any particular inferiority in the oil.

But anyway, the oil industry is in a precarious enough position before the public so that it is not good policy for one member of the industry to knock the products of another. Every company should sell its goods for what the goods themselves are and leave the other fellow's goods out of it.

We have repeatedly said that the sale of motor oil on the idea that the other man's oil, if used may utterly destroy the engine, is steadily building up an ill-will against the oil industry for which it some day will have to pay severely.

This constant reiteration that "poor lubrication" is responsible for "tremendous losses" or most of the re-

OUR PIES!

pairs of cars, we do not believe to be true in the first place and in the second place, it is going to cause the industry trouble.

But here is some more of that same ad to which this prominent oil man objects and which we do not think presents a fair picture to the public. The ad goes,

"When you say—'give me a quart of oil', you are inviting—Knock! knock! carbon!" And then further on it says, "Merely saying, 'Give me a quart of oil' is sure to bring extra carbon—quick carbon." The first statement of the ad may, by stretch of the imagination, be true, but it is certain that the second statement referred to is not true. You might, in response to that general request, get an oil which would give you a knock but you might also get the finest oil made and depositing little carbon.

Again we urge the oil companies to respect their competitors, to respect their products and to respect the good name of the oil industry. It will pay well in the long run.

The "Dissembling Line" in Refineries

THE automobile industry is getting many compliments for putting the manufacture of cars on what is called a "continuous assembly line." That is, a belt moving around through the enormous plant, starts out say with a chassis on it and as it goes along first one wheel then another is screwed on, then the engine, then the gas tank, then the brakes and so on. At the end of the day or sooner it emerges a complete car.

This has saved the automobile industry enormous sums and permitted the price of cars to be reduced. One big automobile company recently said that it has increased its production of cars some 1400 per cent in the last few years, with only 10 per cent more men, all due to the improvement in the assembly line.

And yet the oil industry has in effect, been operating on an assembly line almost from its beginning, only this assembly line is the reverse of that in the automobile plant. It is a dissembling line. The complete product starts into a refinery and keeps flowing along through a pipe and as it flows first one thing and then another is taken from it until nothing remains, but out of a countless number of pipes flow the products of the crude oil.

Few people probably realize it, but this stream flowing through the plant is continuous and very difficult to break in on. Try asking a refinery friend of yours some day to let you have a barrel of crude oil and you will be surprised how much trouble he has to go to because he cannot break into that stream as its flows into the refinery. He has to send out and have the oil bailed out of some tank way out in the field. You will find it difficult to get a fair sized sample of any of the products before they are complete. There are certain places where samples must be taken but they are small samples.

The oil industry has always kept its labor charge to a minimum and even now refiners are discovering ways to reduce that charge still more. In these days of fuel oil and automatically fired boilers and stills and central control houses for a battery of stills, a plant running many thousand barrels a day may have only a handful of men around it.

All of this is not the continuous assembly line that the automobile industry has devised, but it is a similar line that the oil industry has devised and for which the oil industry is entitled to credit. Perhaps if we copied the phrase of the automobile industry and likened our operations to their "assembly line", the story would get over quicker.—W. C. P.

Phillips Gasoline To Be Used In Trans-Pacific Flights

By J. C. Chatfield
N. P. N. STAFF WRITER

Staff Special

BARTLESVILLE, July 30

STRAIGHT natural gasoline will be given an exhaustive test as an airplane fuel on Aug. 12 when at least two and possibly three planes will take off for Honolulu and the Orient loaded with "Phillips New Aviation Gasoline" just announced by Phillips Petroleum Co.

The plane "Oklahoma" piloted by Bennett H. Griffin of Oklahoma City, will take off from Bartlesville on Aug. 3 for a two-stop flight with Tokyo, Japan, as the ultimate goal. Art Goebel of San Francisco will use the same gasoline in his Pacific flight, and it is possible that Capt. William P. Erwin of Dallas may use it on his proposed flight to Hawaii and Hong Kong.

Phillips Petroleum Co. is one of the backers of the Griffin flight, having underwritten the money not raised otherwise to obtain an outstanding test of the new gasoline. The other two fliers have heard of the new fuel since the Griffin project was undertaken and Goebel chose the gasoline on its merits after a series of tests without financial aid from the company. Goebel flew from San Francisco to Bartlesville and Wichita to test out the new gasoline before accepting it. Capt. Erwin is expected to come from Dallas for the same purpose within the next few days.

The "Oklahoma" will start from Bartlesville at 6 p. m., Aug. 3, for San Francisco, flying on a bee line, by navigation instruments only, across the mountains. The fliers expect to land at Oakland field the next morning. Lieut. Griffin and his navigator, Al Henley of Waco, Tex., will compete for the Dole prize of $25,000 for a flight to Honolulu on Aug. 12 and continue on to Tokyo after refueling. The first hop is 2,400 miles and the second 3,600 miles, entirely over water.

A Travel Air monoplane equipped with a 200 h. p. Wright Whirlwind motor has been built for the long journey. It will carry 500 gallons of gasoline weighing 2,826 pounds. The Phillips gasoline to be used weighs 5.652 pounds per gallon at 60 F. as compared with 6.2 pounds per gallon of Pacific coast aviation gasoline. By using the Phillips product a saving of 274 pounds is made in the weight of the loaded plane, 0.548 pounds per gallon. It was this important saving in weight which caused Goebel to choose the Phillips product.

In preparation for the flight Phillips Petroleum Co. has shipped a supply of the new gasoline to San Francisco and to Honolulu. The shipment to Hawaii was made in 50-gallon I. C. C. drums.

AN IMPORTANT feature of the new gasoline for the long distance aviators is the saving in gallonage indicated by tests made in the Phillips experimental plane piloted by Billy Parker. This plane has been in service for some time to test the company's gasoline against other motor fuels. With its Wright radial motor the Phillips plane consumed an average of 12 gallons per hour of 64.66, 375 end point domestic aviation gasoline, while with natural gasoline it consumed on an average 1 to 1.5 gallons per hour less. This economy in gallons as well as weight was a surprise to the manufacturers.

The new Phillips gasoline has been tested on a coast to coast flight, by a number of motor manufacturers, by air transport companies, and by various government agencies. It has been tested up to an altitude of 18,000 feet. The fuel is the result of three years of research.

Reports from tests received by the company invariably comment on smoothness of operation as compared with the "bumpy" running of some fuels, freedom from knocking in high compression motors, lack of deposits in the motor and an increase in revolutions per minute ranging from 25 to as high as 100.

While other companies have announced natural gasoline products for airplanes Phillips is the first to put its product on the market on a commercial scale. The company has three plants now equipped to make the product. These are located at points in Oklahoma and Texas giving the best freight rates possible to various destinations. Other plants will be converted to making the new fuel as demand develops. Officials of the company assert that they are prepared to meet almost any demand for the product which might arise.

An interesting sidelight on the new gasoline aviation fuels is contained in a recent announcement of the manufacturers of Wright engines that they are developing a new motor which will have a much higher compression ratio than the present one. The announcement stated that the new motor has been held back in the past because of the lack of a suitable fuel to operate it successfully.

At the same time Phillips announced its aviation fuel it announced a natural gasoline fuel for motor cars which will be known as "Phillips Nu-Natural Gasoline." A marketing department has been created by the company and O. L. Cordell, formerly sales manager for the Waite Phillips Co., placed at its head.

"Phillips Nu-Natural Gasoline for motor cars is a high quality product superior not only to average motor fuel but to premium gasolines now marketed," the company announced. "It has as its particular recommendation the ability to start quickly a cold motor even in zero weather, giving quick acceleration or pick-up and eliminating all knock in the automobile engine. It gives equal or increased mileage per gallon and with the above qualities greatly increases the ease of handling a car under all conditions."

The company has not announced specifications for the new product. Its intentions appear to be to build or buy a distributing system to market the gasoline direct to the public.

ANNOUNCEMENTS of finished gasolines by natural gasoline manufacturers in the Mid-Continent within the past few weeks indicate a complete revolution of marketing practices in that industry. Having built their production up to a high point so that prices have been extremely low the manufacturers have undertaken to find a new market for their surplus. This program has been given impetus by the findings of the research department of the Association of Natural Gasoline Manufacturers which has been maintained for more than a year at the University of Michigan.

Development of high compression motors coincident with the discovery of the non-detonating qualities of natural gasolines has been an added spur to manufacturers in seeking an outlet for their goods. With at least one motor car manufacturer recommending Ethyl gasoline for his new cars natural gasoline manufacturers feel that they have something which will enable jobbers who cannot sell Ethyl to meet that competition and cause manufacturers of high compression motors to enlarge their recommendations to include the new product.

Produce Salable Fuel Oil on Residuum Run By Making Less Coke

By J. C. Chatfield
N. P. N. STAFF WRITER

POTWIN, Kan.

THE VICKERS PETROLEUM CO., has found that it is not necessary to deposit a great amount of carbon to get lower boiling products overhead from a cracking operation, even though fuel oils are used as charging stock. The theoretical condition, which is being more closely approached all the time, is to have the decrease in weight of the lower boiling oils produced, balanced by the increase in weight of the residual oils thereby tending to eliminate the production of both coke and fixed gases.

This company has found it possible to produce a marketable fuel oil from its cracking stills on a residuum run, and the fuel oil produced meets every requirement of low gravity fuel, with no suspended carbon present to precipitate in storage or to clog needle valves of burners.

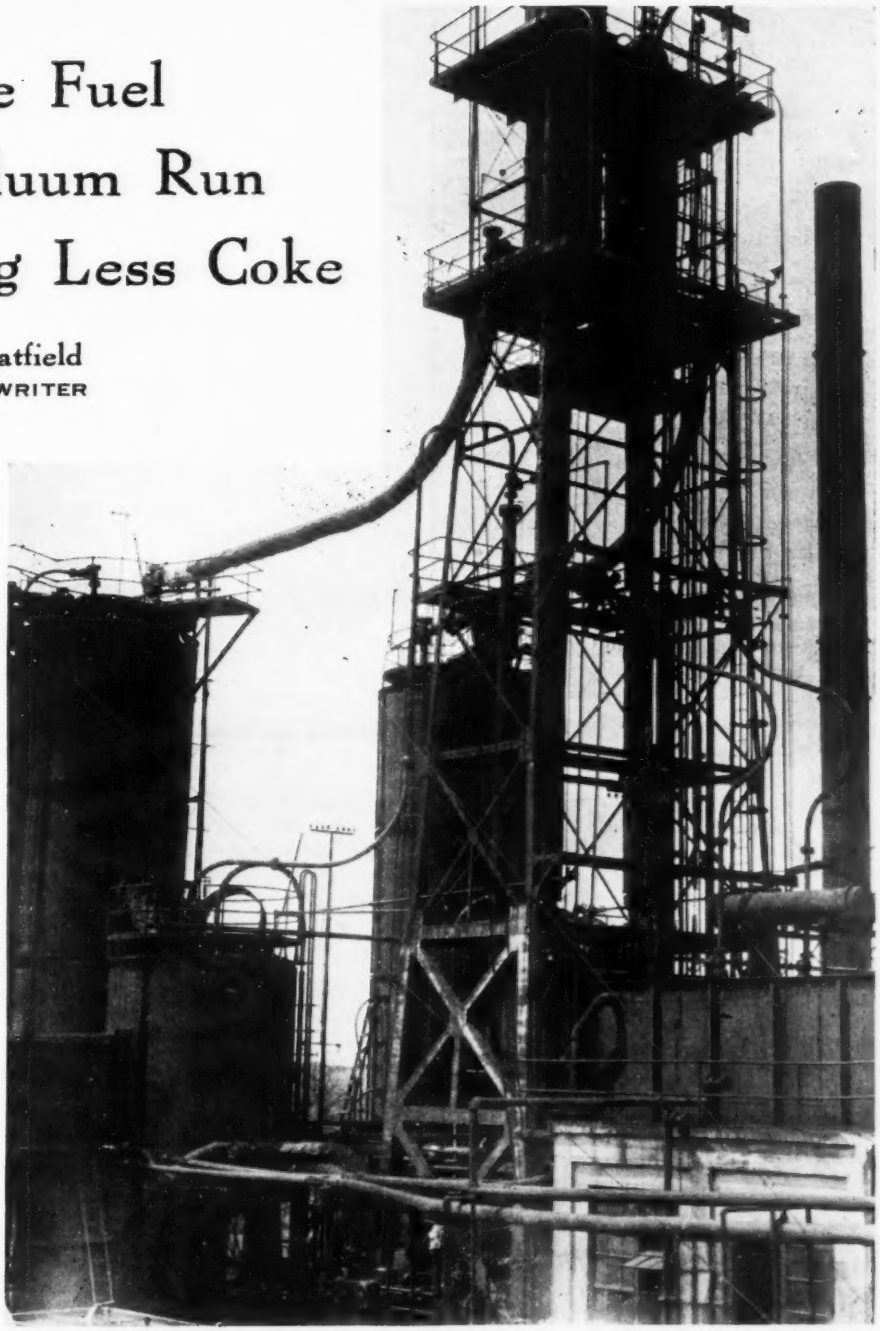
In addition to producing a satisfactory fuel the new method of operation appears to have the following advantages on the basis of experience developed over a period of more than six months.

1. An average of only 5 pounds of coke per barrel of charging stocks is produced as compared with a former production of 25 to 30 pounds per barrel from the same fuel oil charging stock.

2. Due to the smaller deposition of coke, it has been possible to lengthen operating cycles to a marked extent. Formerly each unit was on stream four days and down one while current operating cycles are of 22 days duration with excellent chances for a substantial increase.

3. Operation of the crackers is much more smooth. When a unit is brought on stream properly and fires are set, the operation is almost automatic.

4. Operating expense has been reduced materially due to the longer cycles. The clean-out crew, for example, has been cut in half. Lost operating time and lost heat have been reduced, thus affecting further savings both in direct expense and in depreciation of equipment.



View of Vickers' cracking plant showing double chamber system and connections from small flash chamber to mixing drum ettached to steel supports for dephlegmators.

Over a year ago, C. L. Henderson, vice president of the Vickers Petroleum Co., found that he had to reduce operating pressures on his Dubbs units because of the thinning down of the walls of reaction chambers as a result of corrosion. The two units at the Vickers plant had been erected in 1923 and had been in almost continuous service for three years.

It was determined to modernize the plant by installing hot oil pumps and new chambers of much larger size. The old chambers were of a size, 10 by 10 feet. The new chambers are 10 by 30 feet. With the hot oil pumps they increased the capacity of each unit from 500 to 850 barrels of raw charge per day.

When the new chambers were put in place, the old chambers were not removed from their original footings. It was planned to use them as hot storage chambers for heavy residuum fuel to be circulated to the furnace through a belt line.

The secret of success in cutting down the formation of coke and keeping the residuum free from suspended carbon, seems to be in reducing the soaking time of oil under high pressure and temperature. The reflux ratio of the operation is increased to about 4 to 1 and oil is kept moving through the cracking plant continuously.

As in all installations, the still charge passes directly from the fur-

nace tubes to the reaction chamber at the Vickers plant. A pressure of about 200 pounds per square inch is kept on this chamber. Unlike the usual method of operation, no body of liquid is maintained in this chamber. That portion of the charge which is vaporized in this first chamber is carried up into the dephlegmator while the liquid portion is drawn off continuously through one of the four bottom draw-off lines.

A REDUCING valve releases pressure on the residuum from 200 pounds to about 50 pounds per square inch at which pressure it enters the old 10 by 10 foot chamber now converted into a flash chamber. In this second chamber a large portion of the liquid is vaporized and the liquid remainder is drawn off to fuel oil storage. The amount of residuum fuel has been running about 31 per cent of the raw charge. Temperature in the center of the flash chamber averages about 720 F., a drop of about 30 degrees from the temperature at which the oil is drawn off from the first chamber.

Vapors formed in the second chamber are conducted to an absorbing or mixing drum where they are condensed by the incoming cold, raw oil charge. In the first unit the mixing drum was made of a 30-foot section of 10-inch pipe, and in the second unit a 35-foot section of 15½-inch O. D. pipe was used for a drum.

In the new mixing drum five baffle plates have been introduced in the upper portion. Raw oil is pumped into the drum over the fourth plate and vapors from the second chamber are introduced below the bottom plant. The descending raw oil condenses the vapors and is raised in temperature from 90 degrees to about 200 degrees. Thus far, this portion of the system has not been insulated. Later it is expected that the raw oil will be heated to a higher degree.

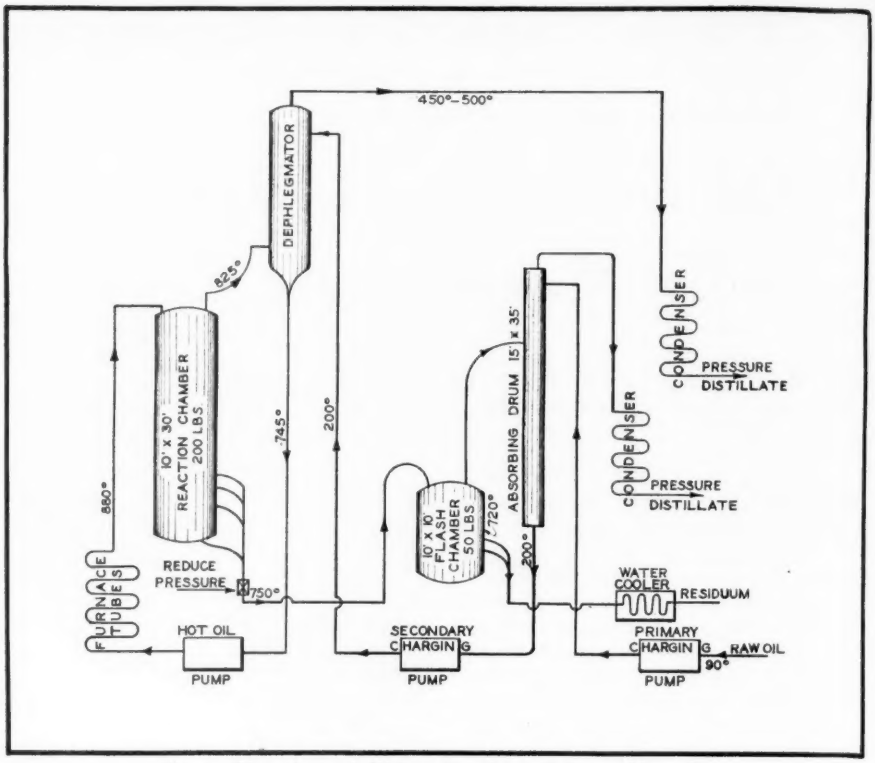


Fig. 1—Flow sheet of Vickers Petroleum Co.'s cracking plant.

Examination of samples of condensed vapors from the flash chamber shows that a good portion of this material will distill off below 437 F. From this it is assumed that some cracking takes place in the second chamber. Arrangements have been made to take off some pressure distillate vapors from the top of the mixing drum.

From the bottom of the mixing drum the 200-degree mixture of raw oil and recycle stock is picked up by a secondary pump and charged into the dephlegmator. From the reflux leg it is picked up by a hot oil pump and charged to the furnace tubes. Fig. 1 is a diagrammatic flow sheet of the process at the Vickers plant.

A. M. Schrepfer on the left is superintendent of the Vickers plant. With him is R. N. Moore, his assistant.

COKE deposits in the first chamber have a tendency to be denser and harder than when a liquid level is maintained in it. It has been possible to clean out, however, without an undue amount of time and labor, in view of the fact that so much less coke has been formed.

An analysis of the coke now being made showed a moisture content of 3.23 per cent; volatile matter 13.28 per cent; fixed carbon 81.94 per cent and ash 1.55 per cent. A test of heating value showed 15,219 B.T.U.'s per pound. The sulfur content was 0.77 per cent.

In the most recent completed cycle at the Vickers plant, the No. 1 unit was on stream 22 days. In that pe-

riod approximately 31 tons of coke were deposited in the first chamber and approximately 7 tons in the second chamber. This ratio of about 4 to 1 has been maintained on other runs.

In the second chamber a liquid level of between 4 and 5 feet is maintained. The coke in this chamber is more porous than that in the first chamber, allowing the residuum to filter down through it more readily. It is somewhat easier to remove.

With two units on 5-day cycles, it was necessary for the company to maintain a clean out crew of 12 men who were kept busy all of the time either actually cleaning or moving coke. This force has been cut to 6 men who are spending only about 25 per cent of their time cleaning out.

An average sample of the residuum fuel from the cracking plant showed an A.P.I. gravity of 12 degrees, specific gravity of 0.993 at 60 F., a weight per gallon of 8.273 pounds, flash point of 225 F., fire 280 F. and a cold test of 5 degrees below zero F. The average sulphur content of the fuel is 0.71 per cent. Heating value on the above test was 18,270 B.T.U.'s per pound.

A DISTILLATION of this fuel showed an initial boiling point of 460 F., 10 per cent over at 552, 20 per cent at 608, 30 per cent at 657, 40 per cent at 696, 50 per cent at 727, 60 per cent at 785 and 71 per cent total liquid recovery at 810 F.

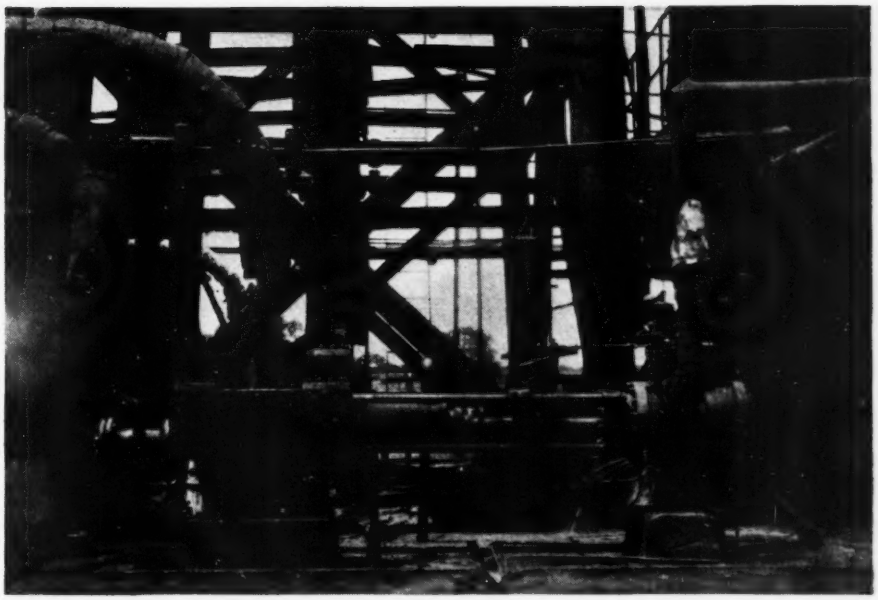
The B.S. content by benzol consistently has been running 1 per cent or less. Samples of this material retained for several months at the plant have shown no trace of precipitation of carbon or the hard asphalt-like substance which has given some operators much trouble on residuum runs.

Reduced crude of about 26 A.P.I. gravity normally is charged to the units. Complete data on the most recent completed run of No. 1 unit is given in table herewith. This is the unit equipped with the 10-inch by 30-foot mixing chamber.

The No. 2 unit with the larger mixing drum had just been brought on stream when the writer visited the plant. With this unit it was found possible to bring pressure on the second chamber down to 50 pounds per square inch. The addition of a means of taking off pressure distillate from the top of the mixing drum, permits the lowering of the flash chamber pressure to 30 pounds or less, just enough to deliver the residuum to storage without the use of a pump.

The first day's run of the No. 2 unit showed a raw oil charge of 744 barrels and a production of 416 barrels of 439 endpoint pressure distillate. The pressure distillate showed 86 per cent of 400 endpoint gasoline. The residuum was 9.4 gravity.

Operators of the process are of the opinion that by lowering pressures in the second chamber, production of coke can be reduced still further and runs increased proportionally. On the other hand, some tests have shown that a slightly higher pressure in the second chamber results in more cracking in this chamber. Just how far this can be carried will depend on the quality of the residuum drawn from this chamber under the different conditions.



National Transit hot oil pump used for recirculation at Vickers plant.

Report of 22-day run of No. 1 unit—The Vickers Petroleum Co. Potwin, Kansas.

Hours fire to stream	11
Hours on stream	540
Raw oil charged, barrels	15,141.41
Average A. P. I. gravity	25.6
Average charge per 24 hours on stream, Bbls.	675
Pressure distillate made, Bbls.	8,962
Average A. P. I. gravity	56.5
Per cent of raw oil charge	59.2
Gasoline produced, bbls.	7,467*
Average A. P. I. gravity	58.4†
Per cent 400 F. endpoint gasoline to raw oil	49.3
Per cent 437 endpoint to raw oil	53.6
Per cent 400 F. endpoint gasoline to pressure distillate	83.2
Gallons made per still hour	581
Residuum fuel produced, bbls.	4,704
Average gravity A. P. I.	11.4
Per cent of raw oil	31.1
Per cent loss, uncondensable gases and coke	9.7
Coke produced in 10 x 30 foot chamber, tons	31
Coke produced in 10 x 10 foot chamber, tons	7
‡Fuel oil burned, bbls.	1,369
Per cent of raw oil	9.22
Working pressure 10 x 30 chamber, lbs.	200
Working pressure 10 x 10 chamber, lbs.	60
Average temperatures:	
Above tubes	1,490 F.
Below tubes	1,090 F.
Transfer line	880 F.
Vapor to condenser	450 F.
Vapor to dephlegmator	825 F.
Combined feed	745 F.

*Meter readings.

†A. P. I. gravity in tank after elimination of dissolved gases 55.0.

‡Uncondensed gas is burned under skimming stills and boilers.

Standard of Kentucky Builds Division Offices

JACKSON, Miss.—Division offices of the Standard Oil Co. of Kentucky, for the state of Mississippi are now housed in a beautiful new building at North State and Amite streets across from the old state capitol building. The building was completed early in February to house the marketing staff which had outgrown the old offices at the Jackson bulk plant.

The new building is located on the site of the old Bowman hotel which was one of the famous hotels of the south in the sixties. It was destroyed by fire during the Civil war and for many years has been a residence site. The old house was moved from the lot to the state fair grounds and donated by the company as a women's building.

The building is of light terra cotta trimmed with granite and has a red tile roof. In addition to the offices of Division Manager R. B. Dodson and his assistants there is a large, well lighted main accounting room 60 by 84 feet. The building accommodates 136 persons in all.

To provide room for a service station the building was set well back from the corner and six visible pumps were set. Drives to the station are almost on a level with the street. There is a rotary lift for oiling and greasing at the rear.

TULSA.—H. O. Helvie, assistant manager of the Carter Oil Co., Tulsa, has spent the greater part of his time at Seminole during the past year in connection with that company's operations in that district. Peak production of 91,000 barrels was reached by the Carter company in April, according to reports.

Solidification Of A. P. I. Standards In Field Use Aided By Purchasers

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, July 28. THE "tow-rope" for solidification of the oil industry field standardization program is about to be placed for a strong pull together by the American Petroleum Institute organization back of this work and the operating departments of producing companies.

It having been recognized that purchasing agents can do more than anyone to get field superintendents and key men to work with and consider A. P. I. standards, the purchasing agents are soon to have representation on the various specifications committees.

Arch M. Bowman, general purchasing agent, Humble Oil & Refining Co., Houston, and District No. 2 vice president of the National Association of purchasing Agents, has written the various district organizations in the oil group for the names of members and the A. P. I. committees on which they would like representation. When this information has been developed, Director General Carl A. Young of the A. P. I. division of standards at Dallas proposes the working out of the representation desired.

The new arrangement will give the purchasing agents, as an association, Mr. Brown explains, a close-up on all standardization activities of the A. P. I. It will not be necessary for each purchasing district to have a member, or members, on all A. P. I. standardization committees, but only on those in which there may be a vital interest.

Mr. Bowman was appointed one of a committee of three at the June meeting of the National Association of Purchasing Agents at Grand Rapids to take up with the Institute the question of such representation. Other members of the committee are W. H. O'Connor, general purchasing agent of the Marland Companies, Ponca City; and R. M. Ketchum, general purchasing agent of the General Petroleum Corp., Los Angeles, the California subsidiary of the Standard Oil Co. of New York.

ALTHOUGH the Purchasing Agents Association of Tulsa gave the American Petroleum Institute the idea of standardization of oil field equipment in their effort to get uniform rig irons several years ago, the purchasing agents as a whole have known all too little about the movement, in the opinion of Mr. Bowman.

"The purchasing agents," says Mr. Bowman, "are the men who have to get down to details and tie-in the equipment used in the field; if they fail to get material that ties up they are the men who get the blame from the executives in charge of development and production work."

Mr. Bowman himself has been very active in standardization work, first as national secretary of the rotary drilling equipment committee of the A. P. I. standardization group, under Captain J. F. Lucey, national chairman, and later as secretary under Walter W. Fondren, national chairman of the derrick and standard rig specifications committee.

COMMENTS of Mr. Bowman with regard to this work are reproduced for the purpose of showing how standardization has progressed:

"Our first move (rotary drilling equipment committee) was to ask the manufacturers to send us their blue prints and working drawings, covering rotaries, engines, pumps, drawworks, swivels, tool joints, traveling blocks, crown blocks, hooks, etc.

"As most manufacturers had never permitted their drawings to leave their plants up to this time, some were reluctant to do so in this case, but, upon being assured that individuality and initiative would not be curtailed or stifled, but only certain features would be considered in the standardization work, they gave their consent and allowed us to check over their drawings; and all responded and entered into the spirit in a very commendable manner.

"This work necessarily brought into close contact the best men in the different lines of endeavor which the country could produce, from east, west, north and south. It was the custom to gather together each six months and arrive at some definite conclusions, which were properly recorded and circulated to the industry, with the result that great things have been accomplished. . . .

"The experience gained in rotary equipment standardization work enabled us to accomplish on the derrick and standard rig committee what it had taken us four years to do with rotary equipment. We found by compiling the replies to questionnaires that there were 360 styles of derricks, heights, bases and top openings considered, being used in the United States. This has been reduced to a total of 11. . . .

"IT IS interesting to note that since the users of oil field equipment began to take such a decided interest in the uniformity of the material which they had theretofore accepted without question, there has been a tendency on the part of all manufacturers to not only improve the design of the material they had been manufacturing but to put better material and workmanship in the finished product.

"I think all manufacturers of oil country goods will admit that the standardization work has been a big help to them and that all have profited through the labor of the men who have interested themselves in this great movement."

MR. BOWMAN'S comments are especially interesting when read in connection with a discussion of oil country buying before a recent conference of district superintendents of the Humble, held in the office of John R. Suman, director and general production executive.

Reference was made by Mr. Bowman to the company's annual investment of approximately $10,000,000 in the production department alone; of this amount, he said, about 90 per cent is passed to plant account and 10 per cent is charged to repairs, which, of course, is a necessary operating expense.

"As you all know," Mr. Bowman said, "we have encouraged field buying for the last two or three years, in small quantities for emergency needs and, in a district where the privilege is not abused, encouraged it for other than emergency needs; feeling that in this way stocks may be kept at a minimum and the interest on the investment saved by keeping the stocks low will more than offset the premium we might have to pay for material purchased in the fields.

"We have made a careful analysis of the difference in the delivered price on material purchased in Houston and that bought out of stocks at local supply houses in the field and it runs from 3 to 10 per cent, depending on the nature of material, in favor of

(*Continued on page* 91)

(*Continued from page* 88)

Houston buying; this from a price standpoint only and character of material not considered.

"For instance, on small tools we have an arrangement with one of the wholesale houses for the best grades of tools obtainable and the difference in price, between what we would pay in the field and what these tools cost us in Houston, plus delivery charge, is but 3 per cent in favor of buying in Houston; however, the grade of tools carried in the field cannot compare with those we buy in Houston, in most cases. In other words, we buy much better tools for less money through the Houston office.

"On a quantity of material amounting to $3,215.99, purchased in Houston, if bought in the field the same material (assuming it to be of the same quality) would cost $3475,30—8 per cent more; further, on $1625 worth of material bought in Houston from another company, the same material, if bought in the field would cost us $1777, or $152 more, which is 9 per cent greater.

"One cannot say it is cheaper to buy this or that in the field in Houston, or in the field, without taking into consideration the class of material and quality.

"You will note that the saving is slight where a small volume is considered and, as I said, is offset by the saving in time, possible saving in production and the interest on the investment on an unnecessary stock of material purchased in quantities to secure greater discount, and in anticipation of a want which might not materialize."

MR. BOWMAN made the point that, in the main, requirements were not to be bought on field orders without consulting the Houston office, for two very good reasons he stated as follows:

"First, we want the opportunity of supplying your needs, from your own or some other district, without spending any new money; as we very often have on hand just what you require and which we can furnish, providing you will wait for delivery.

"Second, there are a great many things you cannot buy in the field to advantage, on account of contracts or special arrangements the Houston office has covering the same; for instance, 6000 Darcova cups bought in the field on three or four orders would have meant a loss to us of $160, or $27 a thousand, so please continue to wire or call the Houston office, as you have been doing in the past, and give us an opportunity to say whether it is proper to make purchase in the field, or if we can furnish from Houston or elsewhere.

Our stocks, Jan. 1, in the production department, were approximately $3,250,000, 40 per cent of which was pipe. The interest on this amount of pipe for one year at six per cent would be $78,000. As our total turnover on all sizes of pipe ran around 300 per cent you can readily see, on our purchases of nearly $4,000,000 worth of pipe, where the interest on investment is 6 per cent, would be nearer $250,000 than it would $78,000, on pipe alone.

"We moved from one stock to another more than $400,000 worth of pipe last year, $250,000 being charged to the production department, $95,000 to the refining department and $65,000 to the pipeline. The freight charges on this movement were close to $30,000.

"The foregoing was largely, although not wholly, due to the accumulation of stocks at points where work was contemplated and not done. It is true a large proportion was from wells pulled and abandoned, or pipe taken up from lines laid.

"Furthermore, in 1926, we purchased from local stocks pipe amounting to more than $300,000 and paid a total premium on it of $37,282 for quick delivery. This is the difference between buying out of stock and having material shipped on very favorable contracts direct from the mills."

Giving Away Specialties To Build Good Will

COLUMBUS, O.—Giving away at its stations specialties which build up good will of customers toward the company is carried on by the Accurate Measure Oil Co., which operates some 40 gasoline stations in Columbus.

The company also uses such irregularly issued advertising media as church cookbooks, the state university magazines, football programs, programs for community affairs and so on. According to C. O. Brooks, treasurer, the company's experience has been that it reaches the class of steady trade it most desires to hold through such media and it impresses itself upon the community as being a supporter of its affairs and institutions.

For example, a short time ago the company gave away at its stations several thousand sun visors, with the company's name on them. Along in the fall towards the stormy season, it gives away thousands of rubber windshield cleaners, which are handy to keep in a car to wipe away sleet or snow which the automatic windshield cleaner handles with difficulty.

One of the best specialties the company ever passed out, according to Mr. Brooks, was 20,000 kitchen whetstones it gave away through its stations. The stones had the company's name on them. They went into kitchens and basement workshops and were heard from for a long time following.

Once or twice a year the company gives out pencils to its regular trade at its stations, and the station operators try to keep a supply on hand to give to truck drivers who patronize their station, as they have found these men are often in need of a pencil.

They tried giving airplanes to purchasers of coupon books, but found these did not go particularly well.

At the food show held at the state fair grounds, the company gave to women visitors to their booth a half-ounce bottle of paraffin oil as a sewing machine lubricant. They had requests later for additional supplies and told those who called that they would refill the bottles if they were brought back.

"Strange as it may seem, we have found church cookbooks are good places to advertise," said Mr. Brooks. "We have people call up and say they have noticed our advertising and ask which of our stations is most convenient to their residences. Church people seem to support those who support their institutions."

Marketer Tells His Story In Small Booklets

DAYTON, O.—When the Refiners Oil Co., with headquarters here, goes into a new territory or opens a gasoline station in a new territory, it uses the stations as a medium for telling the motorists of the community what the company is and what it has to sell.

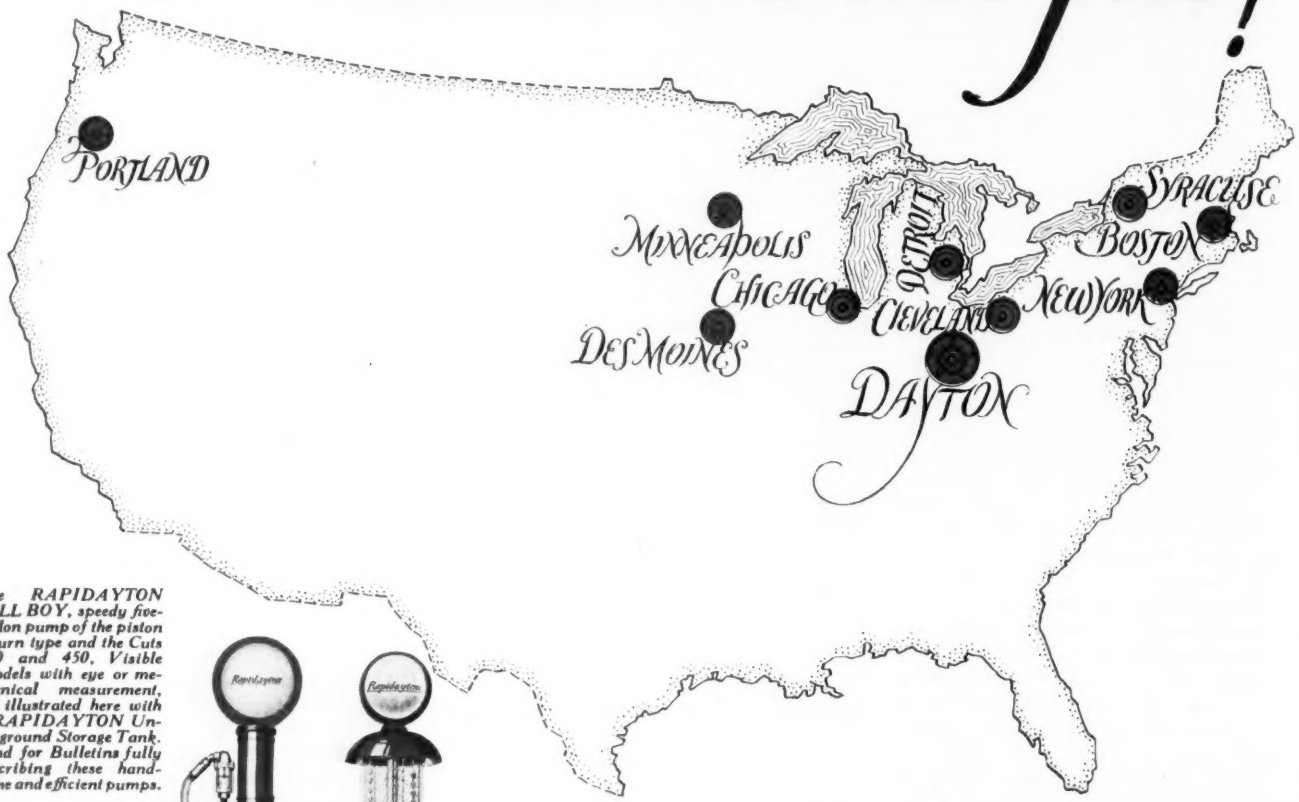
It offers no bargains or opening days, nor does it give away flowers, candy or other premiums. The station men give to every motorist who drives into the station a pocket size pamphlet which tells the story of the Refiners Oil Co. in concise language. These are gotten up by Dwight Spofford, advertising manager.

The company recently took over a chain of stations in Indiana, a new territory for it. A set of 6 folders were gotten up, four-page and pocket size, telling various points about Nitro, its anti-knock motor fuel. A new folder was distributed every 30 days. The folders are in color, each with an illustration on the cover designed to catch the attention of the motorist. They play up the point that this knockless fuel is a straight gasoline and its use makes motoring pleasanter to the driver.

SAN ANTONIO, Tex.—S. F. Shaw, who has been consulting engineer in air-gas lift operations for the Carter Oil Co. during the past six months, has vacationed during July in San Antonio.

During the past six months, air-gas lift production of the Carter company has totaled nearly 5,500,000 barrels. Mr. Shaw has been engaged for the next 12 months by the Carter company and other producing subsidiaries of the Standard Oil Co. of New Jersey.

PUMPS *on the job!*



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Glenrose Oil At Pine Island First In Area From Lower Cretaceous

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, July 29

DEEPENING of the Magnolia Petroleum Co's. No. 20 Robertshaw, seven-eighths of a mile southeast of the Haynes Bros. "gusher" in the Pine Island, La., district, has resulted in completion of another deep pay well in the Glenrose lime. The latest completion, 990 feet east and 165 feet south of the northwest corner of the northeast quarter of 23-21-15, made 320 barrels, initial production, at about 3725 feet.

The Haynes Bros. big well, in the southwest quarter of 14-21-15, which was described in detail on page 27 of the July 13, 1927 issue of NATIONAL PETROLEUM NEWS, was rated good for 18,000 barrels, open flow production, but has been choked down to 4000 to 6500 barrels daily since completion early in July. Exploitation of that well affected somewhat the yield of the No. 12 E. Tyson of the Gulf Refining Co. of Louisiana, a quarter of a mile northeast, in 14-21-15, which had been producing about 800 barrels daily.

No other Pine Island wells drilled into the Glenrose oolitic lime horizon at about 3700 feet are producing commercial quantities of oil, although a few had shows and still others are good for high pressure gas production.

Locations have been made for a total of 17 deep pay tests on properties adjacent to the 10-acre tract on which the Haynes Bros. "gusher" was drilled These have been made mainly by The Texas Co., the Dixie Oil Co., Inc., and the Gulf Refining Co. of Louisiana. Haynes Bros. will drill two additional wells at once. Magnolia, which operates in Louisiana through a subsidiary, the Fortuna Oil Co., probably will also drill additional deep pay wells.

As listed on page 28 of the July 13, 1927 issue of this periodical, the Dixie has three tests drilling at Glenrose depths; the Ohio Oil Co., one; and The Texas Co., one, in addition to new locations.

A SURVEY made on the writer's trip to the Shreveport district at the time of the Haynes Bros. completion discloses that the hope of new production in the North Louisiana territory at present lies mainly below the 2500-foot horizon. The northern part of the state has been thoroughly perforated with 2000 to 2500 foot dry holes, which have not eliminated all possibilities of new fields at these levels but have discounted probabilities over wide areas.

The Glenrose wells at Pine Island are of far-reaching importance because of their bearing on possible oil production to come from similar horizons in the Trinity Series beds of Lower Cretaceous age elsewhere in the southwest. Pine Island oil in the Glenrose constitutes the first commercial production to come from that horizon, notwithstanding tremendous gassers from it in both the Caddo and Cotton Valley, La., districts. The Glenrose underlies at depth virtually all productive fields in the Interior Coastal Plain of Texas and probably persists throughout North Louisiana and South Arkansas areas of prospecting.

ALTHOUGH no effort is being made at this time to test oil possibilities of the Monroe gas territory, on an uplift east of that on which the Caddo district is located, operators are giving the area conversational attention. The territory has not been eliminated as a prospective oil district, though many test wells drilled there over a long period of years have invariably failed to find petroleum.

The Monroe territory will bear testing as deep as the Lower Cretaceous beds, if present, as will also the areas of production in Webster, Claiborne, Bossier, Caddo, DeSoto and Red River parishes. At least parts of Webster and Claiborne parishes, including the Cotton Valley and Shongaloo gas areas, produce from "highs" in the syncline between two parallel uplifts, the Sabine on the west and the Ouachita on the east. Caddo and Bossier parish fields are on the Sabine uplift; Haynesville and Homer oil fields and the Monroe gas area bear relation to the Ouachita uplift. Red River, DeSoto and Sabine parish producing fields are on the Southern part of the Sabine uplift.

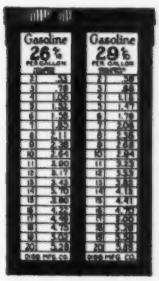
South Arkansas fields, which are considered to bear relation to the north end of the Ouachita uplift, have never been adequately tested below the Woodbine sand levels; this leaving Smackover, El Dorado and other smaller development areas with future oil possibilities in the Lower Cretaceous beds, wherever they may be reached with the drill.

SHALLOW drilling along the Angelina-Caldwell flexure, which extends northeasterly from Angelina county, Texas, through Sabine, Natchitoches, Grant, Winn, LaSalle and

New Gasoline Price Chart

Shipped on Approval

Double Chart $3 Size 7 x 12"



Single Chart $2 Size 4 x 12"

Steel frame, with glass front. Shows price of 1 to 20 gallons of gas at all prices and fractions. Hangs on pump, post or wall. Customers can see for themselves price of gas and amount of purchase.

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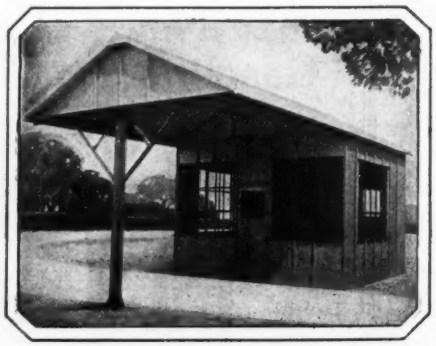

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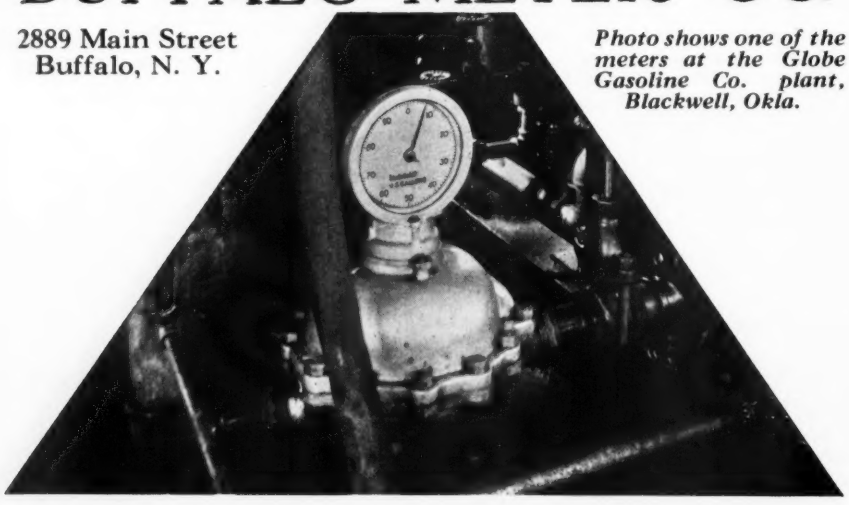

Photo shows one of the meters at the Globe Gasoline Co. plant, Blackwell, Okla.

Caldwell parishes, La., on to the Ouachita river, has failed to result in additional oil production since development of the Urania district.

In Richland parish, the Gulf Refining Co. of Louisiana several months ago drilled a 2300-foot gasser in 32-17-6, which made 2,000,000 cubic feet daily; seven miles southwest of it, in 2-15-5, Oliver & Masters got 5,000,000 cubic feet of gas in the same horizon. The formations penetrated in this area differ from those found elsewhere in North Louisiana, a redbed series being logged at 2300-2400 feet. A streak of volcanic ash also has been found in test drilling. Deep operations below the 2300-foot level will determine the oil possibilities of the area.

THE finding of 3000 foot oil production by the Arkansas Natural Gas Co., in the Pleasant Hill area of northern Sabine parish, near the south end of the Sabine uplift, promises no immediate widespread development; nor, perhaps, any considerable area to be found productive away from the Arkansas Natural's leaseholds. Production in the Pleasant Hill district has averaged a few hundred barrels daily for a period of months from a half dozen wells.

In the Carterville area of northern Bossier parish, disappointments have been recorded repeatedly over a period of months. Woodley & Collins first called attention to that area as a possible source of oil production when they completed a 40,000,000 cubic foot gasser in 22-23-12. They then moved a mile and a half northeast, where they drilled a small oil well, which produces about 200 barrels of fluid, 75 per cent water, from the Woodbine sand at 3100 feet.

Half way between the previously mentioned wells, the Louisiana Oil Refining Corp. some months ago completed its No. 1 Blanton, in 22-23-12, for 40,000,000 cubic feet of gas and 1500 barrels of fluid. The well afterwards went entirely to water.

Foreign Opportunities

26526.—**Lubricating and fuel oils**, Madrid, Spain, purchase.

26528.—**Lubricating oils and greases**, Brussels, Belgium, purchase.

26529.—**Lubricating oils**, Hamburg, Germany, purchase or agency.

26530.—**Industrial oils and greases**, Geneva, Switzerland, purchase.

26531.—**Insulating material**, Hamburg, purchase.

26532.—**Lubricating oils and greases**, Bagdad, Iraq, purchase or agency.

Hitch your Tank Wagon to a star

Not because the original Champlin quality has been improved upon, but because the consistent quality of these oils is now more generally known to motorists through Champlin performance and Champlin advertising, Champlin sales have reached peaks that threaten records.

In rewarding Champlin for its policy of adhering strictly to quality production, the public has paid Champlin jobbers and dealers the further compliment of confirming their business judgment in handling a reliable, high grade line of oils.

The Champlin star is in its ascendency; now, more than ever before, Champlin Oils have come into their own in public favor.

USE CHAMPLIN OILS

CHAMPLIN REFINING COMPANY ~ Enid, Okla.

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Air Compressors — The GLOBE Simplex Two-Stage Type C Air Compressor is the only air-cooled air compressor available today that gives continuous twenty-four hour duty under high pressure. Built in 1-2-3 H. P. sizes. Other GLOBE Air Compressors in all sizes from ¼ to 5 H. P. — capacity ranges from 1.2 to 20 cu. feet per minute.

Air Towers—New! The GLOBE Servrite Air Tower (weight operated). Substantially built. Many superior features, but sells at a very low price. Extreme height 5' 8" — hose radius 17' 4" — shipping weight only 235 lbs. Also built for Air and Water.

Car Washers—This new GLOBE Simplex Hi-Pressure Car Washer is the sensation of the spring selling season. Fully automatic, it has no exposed moving parts. Compact, sturdy, simple, accessible, and direct connected worm drive. Automatic lubrication and pressure control.

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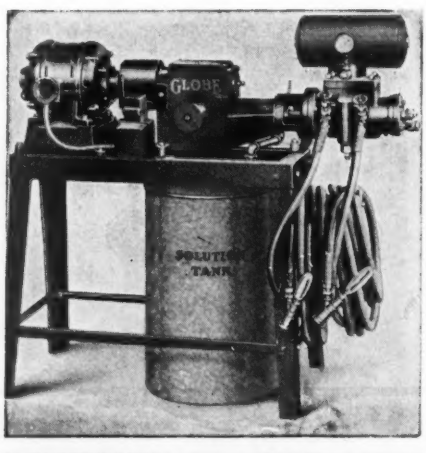


Humble Restricts Crude Runs From Crane County, Texas

Staff Special
HOUSTON, July 22

PRO-RATING of crude runs from the Crane county area of west Texas, which has been more or less an actuality since development of the University (Church & Fields) pool, became more serious this week. Because its storage tanks in the district had been filled, Humble Oil & Refining Co. found it necessary to restrict runs from leases to which its pipeline was connected to about 30,000 barrels daily. The leases mentioned are estimated capable of producing 60,000 barrels daily. Humble has been handling upwards of 40,000 barrels daily from them part of the time.

Production of the general northeastern Crane county district last week averaged roundly 71,000 barrels daily, but this total included about 14,000 barrels of the Gulf Production Co. on the McElroy ranch and approximately 5000 barrels daily of the Landreth Production Co., on the Cowden-Anderson excess survey strip which separates McElroy development from the University pool. Gulf handles its own oil through an 8-inch pipeline to Midland, 45 miles away, and does not buy outside crude; the Landreth interests put in effect a lease storage policy when development of the excess survey strip was begun.

The only other pipeline in the area is the gathering system of Southern Crude Oil Purchasing Co. which has not been an active Crane county buyer and which recently indicated it did not care to increase purchases.

Magnolia Petroleum Co. is storing its University pool crude and a similar policy has been followed, to some extent, by the Simms-Atlantic partnership and the Eastland Oil Co., and Collett.

The Simms-Atlantic partnership has three empty 55,000 barrel tanks in the district. These will aid in handling its production, which has averaged as high as 20,000 barrels daily from the east half of the northwest quarter of University sec. 47 and the southeast quarter of sec. 39.

Eastland Oil Co., and Collett, with 14,000 barrels daily from the west half of the northwest of sec. 47, is another ranking operating interest in the University pool. Prairie's production of several thousand barrels daily was increased by completion this week of its C-2 Lassiter well, on the second location south of the northwest corner of the northeast quarter of University sec. 47, which came in making 280 barrels an hour.

HAD it not been for the pro-rating of runs in the University pool division of the general Crane county area, the present week's production average would be materially higher than for last week. The effect of pro-rating will be to throw back on the operators the burden of taking care of part of their oil, either by pinching down wells or building steel storage to handle it.

Besides Church & Weekly and Cromwell & Pickerell, all University pool operators classify as companies of major or secondary rank. In addition to those already mentioned the operators owning University pool production at present include Tidal Oil Co., Independent Oil & Gas Co., and the Humble. The Humble's own production has been cut down somewhat from the 8,500 barrels being produced when its proration was announced.

Total production of the general area promises to be increased in the next few weeks because of the continuance of a line drilling fight brought about when the Landreth interests acquired the narrow Cowden-Anderson excess survey strip along the north boundary of the Gulf's 27-section McElroy block.

Landreth has five producing wells on the strip averaging about 4,500 barrels daily, and seven more are drilling. The Gulf is exploiting four wells in this part of the McElroy ranch and is going ahead with 21 others classified either as drilling or active locations. Two rows of wells will be drilled by the Gulf along its north boundary to protect against drainage by Landreth development.

THE McCamey district of southwestern Upton county, which is served mainly by the same pipeline gathering systems that reach northeastern Crane, continues to produce roundly 21,000 barrels daily.

Yates ranch development, in northeastern Pecos county, 30 miles south of McCamey, continues on a drilling basis. Potential production of possibly 50,000 barrels daily belonging to the Mid-Kansas & Transcontinental companies to be mainly shut-in. Only about 4500 barrels daily has been taken from the Mid-Kansas & Transcontinental wells recently.

SAN ANTONIO, Tex.—Dr. F. L. Thomson, president of the Grayburg Oil Co., with headquarters here, returned to San Antonio from a recent trip to New York City.

Oil and Gas Leasing Operations Of U. S. G. S. in Oklahoma

By Hale B. Soyster

Supervisor Mid-Continent District, U. S. Geological Survey

Published by Permission of the Director, U. S. Geological Survey

THE conservation branch of the United States Geological Survey was created July 1, 1925, to coordinate the work of the land classification branch of the geological survey and the supervisory and regulatory work of the mineral leasing and oil and gas leasing divisions of the Bureau of Mines.

By presidential proclamation the Bureau of Mines was at that time transferred from the department of the interior to the department of commerce, but the divisions of the Bureau of Mines having supervision over operations for the discovery and production of oil, gas and other minerals on the public domain and Indian lands were retained in the department of the interior and these organizations, with all their equipment, were made a part of the conservation branch of the Geological Survey, which was created for the express purpose of coordinating public land work.

The most important of the leasing activities from the standpoint of magnitude of production relates to oil and gas. Under the direction of the Geological Survey certain changes were soon effected in the organization of the forces engaged in supervision of oil and gas activities with a view to placing greater responsibility on engineers in the field and reducing to a minimum administrative direction from Washington.

THREE supervisory districts were created: The Pacific with headquarters at Taft, Cal.; Rocky Mountain with headquarters at Casper, Wyo.; and the Mid-Continent with headquarters at Muskogee, Okla. In the Mid-Continent district the majority of operations are on Indian lands rather than on the public domain. The accompanying table from the annual report of the various Indian agency superintendents for the fiscal year 1926 shows in a financial way the magnitude of this work on Indian lands.

Included in the Mid-Continent district are Oklahoma, Louisiana, Arkansas, Mississippi, Alabama, Kansas, and Michigan. In each of these states there are in force at this time oil and gas prospecting permits, and in Louisiana and Oklahoma there are a number of producing oil and gas leases on the public domain. On the public domain in Oklahoma active operations are at this time limited to the Red River area where the production to the close of April, 1927, amounted to 499,692.01 barrels of oil.

Revenue derived from oil and gas leases and royalty for fiscal year 1926 from Oklahoma Indian Agencies.

Agency	Oil Royalty	Gas Royalty including C. H. gas	Advance Royalty	Annual Rental	Bonus received on O & G leases	Totals
Five Civilized Tribes	$3,525,551.86	$216,460.44	$117,830.25	$718,677.41	$218,311.97	$4,796,831.93
Kiowa	13,743.07	4,018.96	9,392.15	255.00	34,259.82	61,669.00
Shawnee	138,846.19	3,091.15	12,446.17	35,843.50	48,526.46	238,753.47
			Advance Royalty and Rental			
Pawnee	148,646.80	4,533.67	49,384.17		62,610.98	265,175.62
Ponca	54,521.50	1,488.79	35,856.47	72,059.17	18,253.00	182,178.93
Totals	$3,881,309.42	$229,593.01	$175,525.04	$826,835.08	$381,962.23	$5,544,608.95

Note: Advance royalty and annual rental of Pawnee Agency is not included in totals of the advance royalty and annual rental columns.

With the advent of the development of commercial quantities of oil and gas on restricted Indian lands it was considered necessary for the government to enact or promulgate certain rules and regulations governing operations for oil and gas on Indian lands. These rules and regulations have been revised and amended from time to time as department policy and advancement in the petroleum industry have demanded.

In view of the fact that the office of Indian affairs did not have a petroleum engineering division the secretary of the interior expressed the desire that the Bureau of Mines, which at that time was administering the supervisory and regulatory work on public lands, should exercise like functions on Indian lands.

It is under the resulting cooperative agreements, entered into in 1923, between the Bureau of Mines and the Indian office that the Geological Survey receives its authority in the supervision of operations on Indian lands.

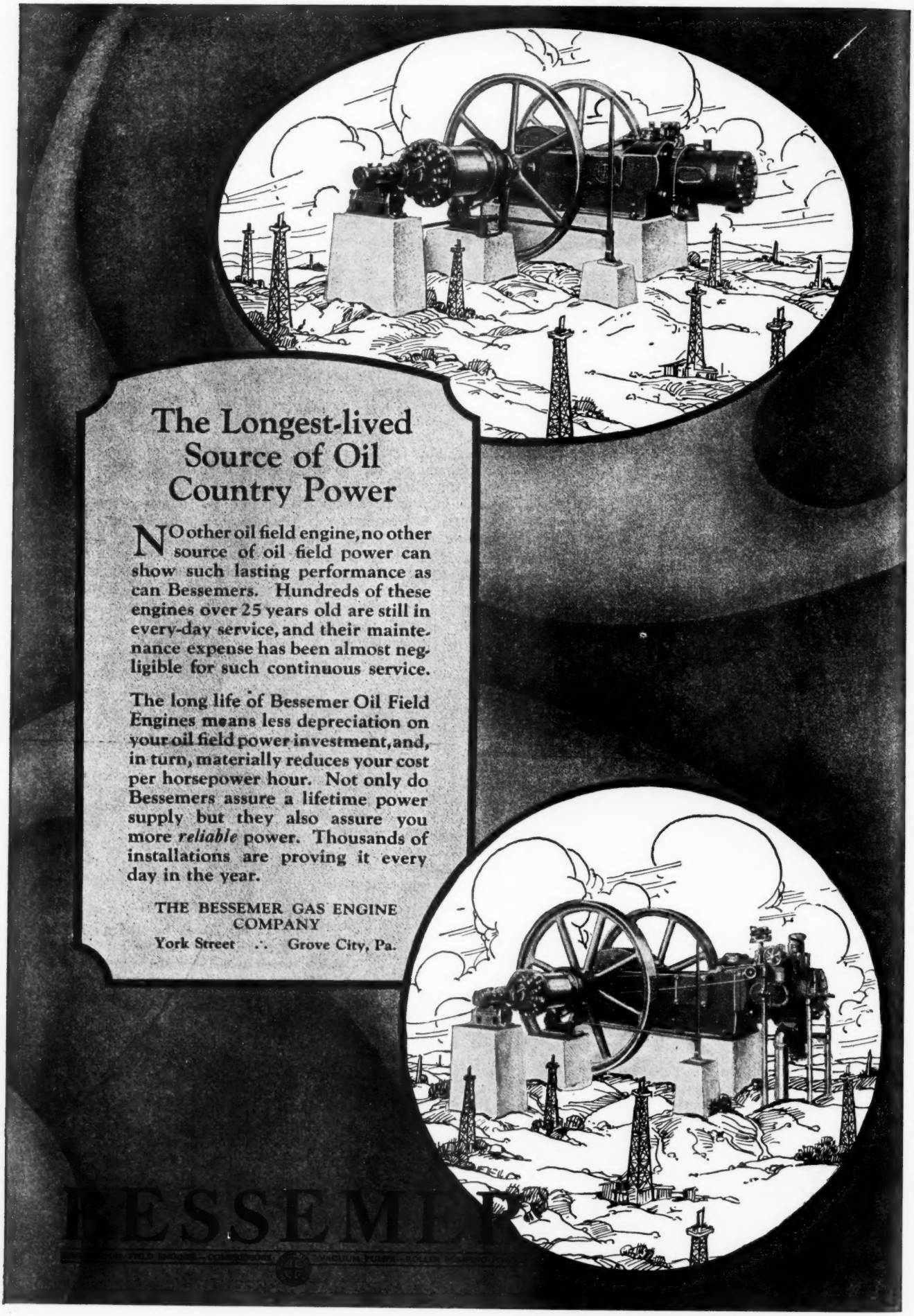
THE Geological Survey in the Mid-Continent district has established, under the supervision of the Muskogee headquarters, field or district offices at Ardmore, Cushing, Okmulgee, Tulsa, and Shawnee, each of which is in charge of a petroleum engineer. The positions are all filled through civil service competitive examinations; each engineer in charge must have had, prior to entrance into government service, at least three years' actual field engineering experience in addition to a degree in engineering or related subjects from an accredited university or college.

It is the duty of the personnel of the Mid-Continent division of the Geological Survey to initiate and aid conservation measures and require compliance with the terms of the regulations. The engineers of this organization will at all times endeavor to be open-minded and consider all questions from an impartial viewpoint.

The interests of the government, of the Indian lessors, and of the oil industry are much the same, and it is the purpose to enforce the regulations, designed for the benefit of all interests, in a spirit of cooperation rather than as an exercise of arbitrary powers. The advice and assistance of the survey engineers may be freely called for by lessees in the solution of their operating problems, and it is the hope of the survey that operators in the petroleum industry will make use of this engineering service.

IT SHOULD be thoroughly understood that the survey desires to work with the operators in the Mid-Continent field in furthering conservation which after all means merely wise development and use. The work of this office has two fundamental objectives; first, the conservation of all oil and gas resources through engineering, and, second, an endeavor to obtain for the Indian allottee a fair share of oil and gas to be produced from his land.

All matters relating to operations for oil and gas on restricted Indian lands in Oklahoma outside of the Osage nation should be taken up with the Geological Survey. Before prosecuting any work on Indian lands proper notices should be filed with the department. This is required not merely as a matter of form but in


The Longest-lived Source of Oil Country Power
NO other oil field engine, no other source of oil field power can show such lasting performance as can Bessemers. Hundreds of these engines over 25 years old are still in every-day service, and their maintenance expense has been almost negligible for such continuous service.
The long life of Bessemer Oil Field Engines means less depreciation on your oil field power investment, and, in turn, materially reduces your cost per horsepower hour. Not only do Bessemers assure a lifetime power supply but they also assure you more *reliable* power. Thousands of installations are proving it every day in the year.
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order that the engineers may know currently what operations are going on and have opportunity to advise with lessees as to doubtful operation and correct wasteful practices before injury has resulted or unnecessary expense has been incurred.

The operating regulations governing operations for oil and gas on restricted Indian lands clearly set out the relationship of the lessee of Indian lands to the government. The latest of these regulations were approved by the secretary of the interior on July 7, 1925, and copies may be secured at any Indian Agency or office of the Geological Survey.

On the public domain all notices are to be sent direct to the office of the Geological Survey in the district in which the well is located or the district in which the contemplated operations are to be undertaken.

The operating regulations governing operations for oil and gas on the public domain also clearly set out the relationship between the Government lessee and the Department. The latest issue of the regulations governing operations for oil and gas on the public domain was approved by the secretary of the interior July 1, 1926.

Copies of these regulations may be obtained from any of the district offices of the Geological Survey.

Following is a list of the Geological Survey Engineers in Oklahoma:—

H. J. Duncan, Deputy Supervisor, Muskogee.

District Engineers in Charge:—

B. H. Tucker, Ardmore District.
P. J. Hegver, Bartlesville District.
E. C. Arnold, Cushing District.
Colin C. Rae, Okmulgee District.
H. W. Shaner, Sapulpa District.
R. T. Bright, Shawnee District.

Ohio Marketers Consider Code of Practices

CLEVELAND, July 30.—Drafting and possible adoption of a code of ethics will be considered by members of the Ohio Petroleum Marketers' Association at their convention Sept. 22 and 23 in the Miami hotel, Dayton. A form on which is space for the listing of practices in oil distribution that should be encouraged and practices that should be discouraged, has been mailed members by W. A. Milna, executive secretary of the association. A committee has been appointed by William F. Burke, Cincinnati, president of the association, to consider members' suggestions.

Mr. Milne has sent members a questionnaire asking them what projects they thought the Ohio association could work on for the general good of the oil industry, and what the association could do to benefit each member's individual business. The primary intention of this questionnaire is to stimulate the personal interest of each member in the activities of the association.

A tentative program has been drafted for the Dayton convention. On the afternoon of the first day Dr. Gustav Egloff, Universal Oil Products Co., Chicago, is to speak on "Gasoline and Its Properties", and Frank W. Lovejoy, Vacuum Oil Co., New York, on "The Filling Station as a Successful Retailer." A code of ethics and a uniform emblem for members of the association to display, will be discussed at this session.

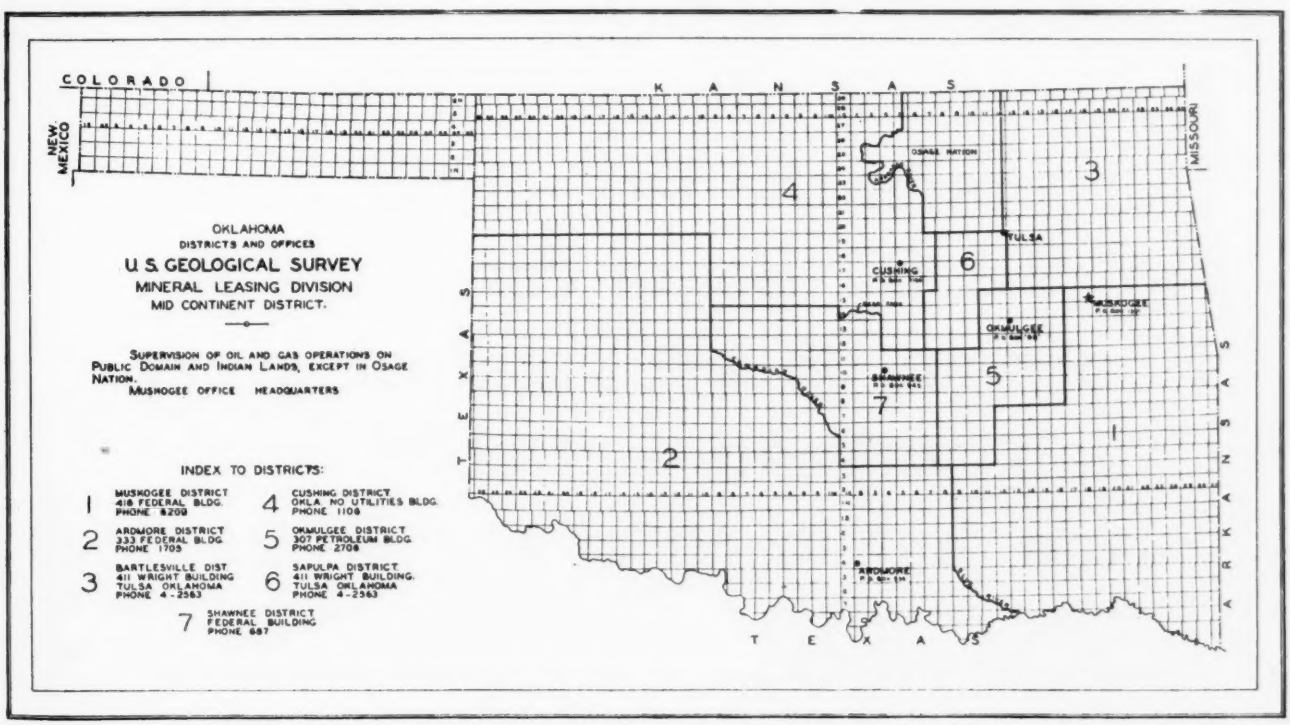
On the morning of the second day James A. Edwards, chief lubrication engineer for the Marland Refining Co. at Chicago, will speak on "Manufacture of Petroleum Products" and D. W. Moffitt, vice president, Mid-Continent Petroleum Co., about the "Relation of Refiner to Jobber." In the afternoon Warren C. Platt, editor, NATIONAL PETROLEUM NEWS, will discuss "The Oil Man's Opportunity."

There will be a luncheon of the association each noon and a banquet with a humorous speaker and dance the evening of the first day. Following Mr. Platt's address, part of the members will be taken through the plant of the National Cash Register Co. and those who seek a thrill will be taken in airplanes over Dayton.

Russian Production Increases

WASHINGTON, D. C., July 30.—A new high record for Russian oil production and exports was established in May when production reached 6,361,000 barrels, an increase of nearly 20 per cent over average monthly output for 1913, according to the Soviet Union Information Bureau. Petroleum exports were about 1,309,000 barrels, or nearly two and one-half times the average monthly exports for 1913.

May output compares with April output of 5,873,000 barrels, an increase of 8.3 per cent, and 5,173,000 barrels for May, 1926, an increase of 23 per cent.


COLORADO
NEW MEXICO
KANSAS
MISSOURI
TEXAS
OKLAHOMA
DISTRICTS AND OFFICES
U. S. GEOLOGICAL SURVEY
MINERAL LEASING DIVISION
MID CONTINENT DISTRICT.
SUPERVISION OF OIL AND GAS OPERATIONS ON PUBLIC DOMAIN AND INDIAN LANDS, EXCEPT IN OSAGE NATION.
MUSKOGEE OFFICE HEADQUARTERS
INDEX TO DISTRICTS:
1 MUSKOGEE DISTRICT 418 FEDERAL BLDG. PHONE 8209
2 ARDMORE DISTRICT 333 FEDERAL BLDG. PHONE 1705
3 BARTLESVILLE DIST. 411 WRIGHT BUILDING TULSA OKLAHOMA PHONE 4-2563
4 CUSHING DISTRICT OKLA. NO UTILITIES BLDG. PHONE 1106
5 OKMULGEE DISTRICT 307 PETROLEUM BLDG. PHONE 2708
6 SAPULPA DISTRICT 411 WRIGHT BUILDING. TULSA OKLAHOMA PHONE 4-2563
7 SHAWNEE DISTRICT FEDERAL BUILDING PHONE 687
OSAGE NATION
TULSA
CUSHING
MUSKOGEE
OKMULGEE
SHAWNEE
ARDMORE

The views of Senator Wm. E. Borah relating to Oil Conservation, as expressed in his speech at Denver, June 28, 1927:

"The oil producers who are among the ablest and boldest of our business men, have appeared and asked the government to protect them against themselves, to stop their wasting the nation's wealth, to exercise its influence in behalf of sanity . . . . The statements and admissions of the producers in the face of the report of the Oil Board constitute not only an offense against every man, woman and child in the land, but in effect a conspiracy

against the security of the nation itself.

"And when you link the confession of the producers with the admissions of no remedy upon the part of the government, it constitutes about the most important problem which could present itself in the growth and development of the country."

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Gulf's Shreveport Safety Work Halves Accident Costs

HOUSTON, July 29

IN DOLLARS and cents the safety work of the Gulf Refining Co. of Louisiana, in the Shreveport district, has lowered that corporation's accident costs from $21.86 per man to $10.60 per man in 10-months periods used for comparison.

Efforts have been made to show every field employee that the company is not objecting so much to the cost in dollars and cents, but that the worker himself is the loser when he suffers personal injury.

The tangible monetary returns, however, are presented as the positive evidence of results obtained. They cannot show, of course, the lessening in suffering and limping, the offsetting of privations that might have been suffered under conditions of serious injury, or other inconveniences alleviated in the cutting down of lost time. These, however, are apparent, though unmeasurable.

GULF records show that from September, 1925, to June, 1926, inclusive, the production department had an average of 1182 men on the payroll in the Shreveport district, which includes north Louisiana and south Arkansas. The accident reports for the 10-months period numbered 411, with a total approximate cost to the company of $25,842.42, or $21.86 per man.

The company then held seven meetings in the latter days of June, 1926, at the various warehouses and fields in the Shreveport district with an attendance of 586 men out of 1333 employees in the department. The next 10 months, beginning July, 1926, and ended the last of April, 1927, had a lowered record shown in the following figures: accident reports numbered 381 at approximate cost of $12,458.67, or $10.60 per man, in a period when the average employment totaled 1175 men.

This year, the pipeline department, under F. H. Vancleave, has joined with the production department, in charge of M. O. Rife as general superintendent, to carry the safety work forward. Six enthusiastic meetings were held, late in June, in the Mooringsport, Homer and Grand Bayou, La., fields and in the El Dorado, Griffin and Norphlet, Ark., territories.

AT EACH of the meetings, sandwiches and soft drinks were served to put the men in better spirits to listen to speeches and make them more inclined to talk themselves. The meetings were generally held about 5 o'clock in the afternoon after the men had been working all day.

R. E. King of the liability department at Shreveport acted as master of ceremonies at the meetings, first talking himself and then introducing other speakers. He talked of the importance of cleaning up property and the prevention of accidents; told those assembled of the good record made in the previous 10 months; and stressed the value of the medical examination system recently installed, explaining the hope of its raising the standard of the whole organization from the standpoint of good health and physical perfection.

Mr. King also talked on loyalty to the company and brought into play a framed sign such as may be seen hanging on the walls of his Shreveport office any day. That sign reads:

> "In the eyes of the public You are this Company—So responsibility for this Company's good name rests With You."

The reception to this display was such that foremen and timekeepers in the organization have asked that similar cards be painted for their use; and plans are being made to have the engineering department furnish enough blue prints to go to each warehouse.

Talks were made at each meeting by Messrs. Rife, Vancleave, Simon Rudnick, D. K. Buchanan, P. P. Stagg and R. F. Lewis, all of Shreveport headquarters for operations in the two states. They put the proposition of safety up to each man and tried their best to impress each foreman and sub-foreman with the idea that close supervision would eliminate many accidents.

THE month of July in particular has been designated a "No Accident Month," but the foremen and sub-foremen were impressed with the idea that much thought should be given to safety at all times.

One of the features that got an extraordinary reception at the field meetings was a bit of verse entitled "Old Jake," composed and recited by D. K. Buchanan, the gray-haired veteran chief clerk in the office of General Superintendent Rife.

Buchanan, whose friendship has been revered for a decade or more by all field men in the Shreveport organization of the Gulf, gave feelingly the several stanzas about "Old Jake," who had been skeptical of Safety but who learned his lesson when "Old Doc" pulled him through.

> "And now any time that I get hit, (he quoted Old Jake)
> "I just make tracks to the First Aid kit,
> "Ain't no more microbes gonna get me,
> "If I can help it," says Jake, says He.

Unfair Discrimination Law Passed in South Carolina

COLUMBIA, S. C., Aug. 1.—A whack at unfair discrimination has been taken in South Carolina in a recent amendment to the state's laws which makes it illegal for anyone engaged in the selling of petroleum products to discriminate unfairly between purchasers or to sell at less than cost to create a monopoly in restraint of trade. The amendment was approved on March 4, by Gov. Richards, after which it went into effect.

It is believed that the new law will stop price cutting to some extent at least, as it has already brought about some regulation of gasoline prices in the state, according to Oliver M. Haire, division manager of the Guarantee Liquid Measure Co. here.

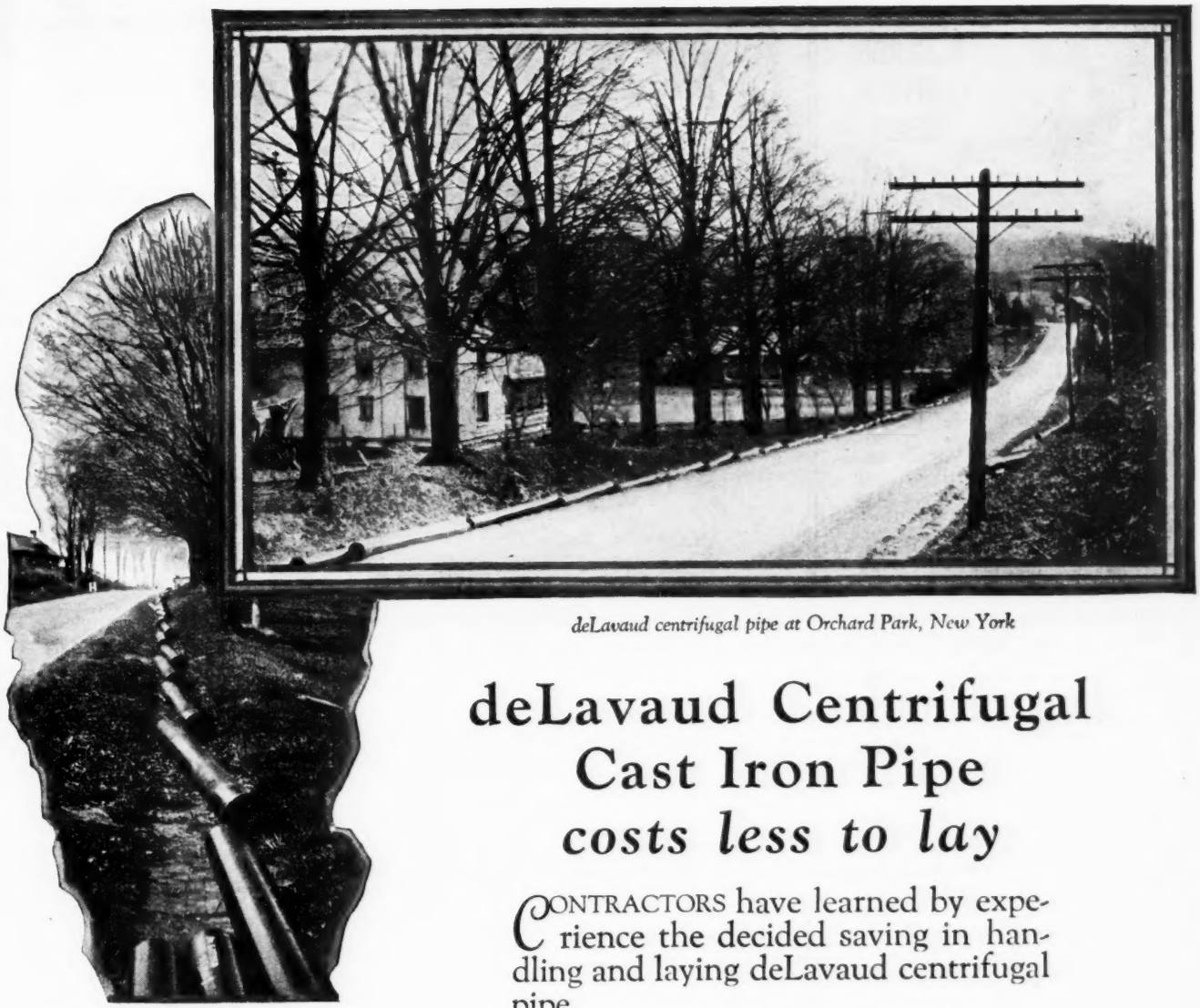
Immediately after the law went into effect, Attorney General Daniel called a meeting of oil jobbers and those in charge of the larger companies in the state, in an effort to learn something of oil marketing practices. He told the jobbers the purpose of the new law was to make it possible for every jobber to realize a fair profit from his sales.

Oil Heating Displays For Stations

CHICAGO, Aug. 1.—Postal cards bearing the address of the Oil Heating Institute have been enclosed in a recent letter of L. V. Nicholas, president of the Independent Oil Men of America, to members, asking them to sign and mail these cards which will bring them a supply of four-color placards on "Heat with Oil—the Modern Fuel" to be displayed at service stations during August and September.

A booklet describing various standardized systems of oil heating will also by sent by the Institute upon request. These are to create interest in oil heat for the home.

CLEVELAND, July 29.—The Gulf Refining Co. has filed an answer to the suit brought against it in the federal court of the northern district of Texas by the Universal Oil Products Co. charging that the Gulf, by operating a cracking process, is infringing the Dubbs patents. All infringement is denied.



deLavaud centrifugal pipe at Orchard Park, New York

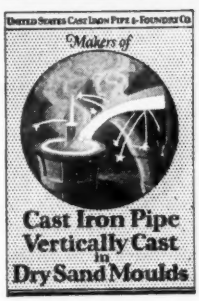
deLavaud Centrifugal Cast Iron Pipe *costs less to lay*

CONTRACTORS have learned by experience the decided saving in handling and laying deLavaud centrifugal pipe.

Its lighter weight and self-centering bell make the actual handling much easier.

Experienced contractors are therefore able to make lower bids, which in some installations average 8% below other pipe.

Engineers and contractors are invited to write for further details. They will be of great assistance in figuring on bids for installations.



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Buffalo: 957 East Ferry Street
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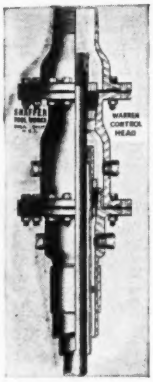
New York: 71 Broadway
San Francisco: 3rd & Market Sts.
Pittsburgh: 6th & Smithfield Sts.
Dallas: Akard & Commerce Sts.
Kansas City: 13th & Locust Sts.
Minneapolis: 6th St. & Hennepin Ave.

General Offices:
Burlington, New Jersey



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This Control Head has been in use for some time on many wells in Ventura, one of the high-pressure gas fields on the Pacific Coast, and not a single well equipped with it has ever gone wild.

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OAKITE cleaning removes all sludge, oil, bituminous deposits, and dirt, completely from the interior of storage tanks. In fact, OAKITE cleans so thoroughly that gasoline can be stored in crude tanks—*without loss of a color point.* What is more, OAKITE cleans at lower cost than any other material available. AND WITHOUT FIRE HAZARD!

Have an OAKITE service man give you the facts. Write us. No obligation.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada

Oakite is manufactured only by

OAKITE PRODUCTS, INC.
42c Thames St., New York, N. Y.

(Formerly Oakley Chemical Co.)

OAKITE
Industrial Cleaning Materials and Methods

New Equipment to Improve Plants

Personal Notes of the Manufacturers

National Petroleum News

The Electric Controller & Mfg. Co., Cleveland, O., is now manufacturing a new lifting magnet known as the EC&M type SA lifting magnet which, the company says, will outlift and outlast all previous designs. It is designed to provide greater strength and better lifting capacity as compared with one piece cast-brass spider. Bulletin 900 describes the device in detail and gives illustrations.

* * *

The Waukesha Motor Co., Waukesha, Wis., manufacturer of heavy duty Ricardo head industrial and vehicle engines, has opened an eastern sales office at 8 West 40th St., New York City. This office was formerly in the Aeolian Bldg., New York.

* * *

The General Electric Co., Schenectady, N. Y., has entered the custom moulding business and will market the new product under the trade name "Textolite Moulded." The company has operated two moulding plants for many years for its own use only, making moulded forms for mechanical and electrical use. The two plants will be in charge of H. D. Randall.

* * *

The Lincoln-Electric Co., Cleveland, O., has moved its Missouri district office from 1808 Railway Exchange Bldg., St. Louis, to 1003 Davidson Bldg., Kansas City. Robert Notvest will handle both St. Louis and Kansas City districts.

A branch office has also been established at 220 Nicholas Bldg., Toledo, O., with A. H. Homrighaus, formerly in charge of the Missouri district, in charge at Toledo.

* * *

Dean Hill Pump Co., Anderson, Ind., has off the press bulletin No. 1202 on its wait type steam turbines designed for modern central station work where high pressure and temperature steam is used. The feature of the new turbines is that the high pressure steam is kept out of the casing, making it unnecessary to use cast steel casing and centerline supports.

Other details of construction and illustrations are furnished.

* * *

The General Electric Co., Schenectady, N. Y., has off the press bulletins devoted to a description of improvements and features in its direct heat electric furnaces which, it says, give maximum speed in heating and allow sensitive control of temperature; on its 2000 to 6000 kw. turbines which have been developed to meet the great diversity of operating conditions in steam-electric plants and to secure higher efficiency on push- and pull-button control switches; automatic reduced voltage starters for synchronous motors, recommended as standard starting equipment for medium and high-speed synchronous motors, driving pumps, etc.; duplex controllers for squirrel-cage motors driving pumps for use where continuity of service is required; cartridge units, and metal melting pots electrically heated.

* * *

Aero Liquid Meter Corp., Los Angeles, will begin distribution of the new Aero combination grease and oil dispenser, the chief features of which are rapid distribution of lubricants by air pressure, automatic and accurate measuring, efficient operation under any climatic conditions and cleanliness. Each unit has two nozzles, one for grease and one for oil. An electrically operated heat unit is at the bottom of the tank for use in cold weather.

* * *

The United States Air Compressor Co., Cleveland, O., has placed on the market special low pressure and low priced one gun paint spray units. These units are designed for sturdiness and accessibility. The cylinders are honed and equipped with oil proof rings to assure air free from oil. The spray units will be marketed at a dealer's price of from $151.60 to $211.60.

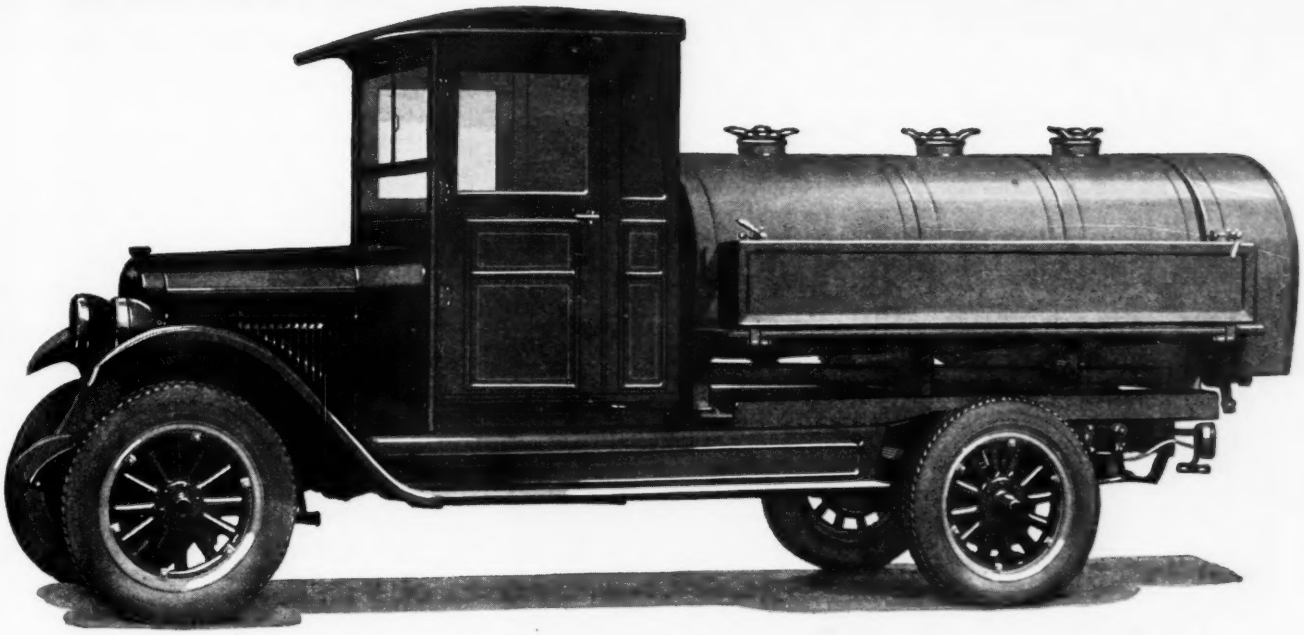
* * *

The Cutler-Hammer Mfg. Co., Chicago, manufacturer of electric controlling devices, will place on the market in August the smallest across-the-line starter for 5 h.p. A.C. motors, which gives push-button control of starting and stopping, and provides thermal overload protection and no-voltage protection.

A novel feature is the type of contactor in this starter which secures double break and wiping contact.

FULTON, Ky.—A modern bulk distributing station will be completed here about Aug. 15 by the Gulf Refining Co. C. N. Boon is agent for the Gulf here.

The Fulton station is under the jurisdiction of the Louisville, Ky. district of which Charles C. Prinz is district sales manager.



Chevrolet Provides The World's Lowest Ton-Mile Cost!

Tens of thousands of users have learned *by actual comparison* that Chevrolet provides the lowest ton-mile cost* in the history of the commercial car industry!

This matchless economy is due to advanced modern design . . . extremely low operation and maintenance costs . . . exceptionally slow depreciation . . . and the most amazing price ever placed on a modern, gear-shift truck—a combination of economy features found in no other commercial car in the world.

Whether you operate one or many trucks, go to the salesroom of the nearest Chevrolet dealer and learn for yourself how Chevrolet is designed and built to save you money. Go over the chassis, unit by unit. Note the advanced, modern engineering—typified by a powerful valve-in-head motor, with three-speed transmission and sturdy single-plate disc-clutch. Mark the rugged, quality construction throughout; heavy channel steel frame—massive banjo-type rear axle—long, extra-leaved, heavy steel springs, set parallel to the frame. Go for a trial load demonstration—and see how perfectly Chevrolet meets your own haulage requirements.

Then examine the amazing economy records made by Chevrolet Trucks, in every line of business and under every condition of road and load—records which prove conclusively Chevrolet's over-all economy.

If you do that, the next truck you buy will be a Chevrolet—for, like tens of thousands of others who have made similar investigations of Chevrolet quality, you will say that here is the greatest dollar-for-dollar value in the history of the commercial car industry—

—from every standpoint, the ideal truck for *your* business!

**Ton-mile cost is the cost of transporting a ton of material one mile—or its equivalent.*

for Economical Transportation

CHEVROLET

--- at these Low Prices!

1-Ton Truck Chassis with Cab	$610
1-Ton Truck Chassis	$495
½-Ton Truck Chassis	$395

All prices f.o.b. Flint, Mich.

Check Chevrolet Delivered Prices

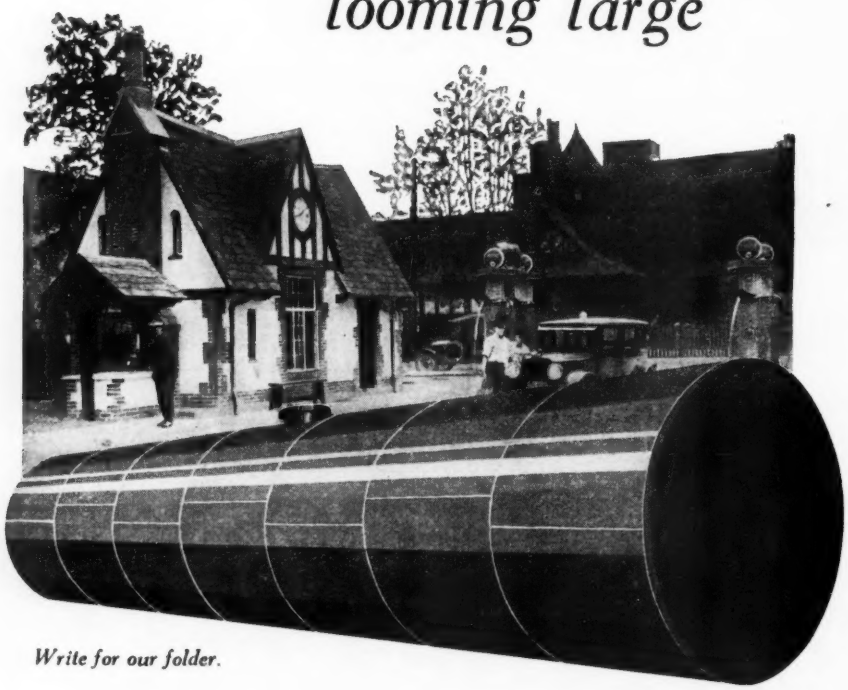
They include the lowest handling and financing charges available.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN
Division of General Motors Corporation

THE WORLD'S LARGEST BUILDER OF GEAR-SHIFT TRUCKS

SISTERSVILLE TANKS
"Made in the heart of the oil country"

looming large



Write for our folder.

It is splendid to be able to step outside the door of your Filling Station office and look around with happy satisfaction at the trimness of your drives, the attractiveness of your building and the modernness of your equipment . . . . it is splendid, because those things loom large in the motorist's eye and bring sales. But don't forget, as you look around, that the thing that looms large when the profits are counted is the tightness, the leaklessness of your tanks. Little holes dribble away profit . . . . . *but not from Sistersville storage.*

Sistersville Tank & Boiler Works
Sistersville, W. Va.

WE build efficient natural gasoline and vapor recovery plants. Also examine processes, plants and properties.

G. A. Burrell Company
Chemical Engineers
Columbia Bank Bldg. Pittsburgh, Pa.

Price Fixing Charges In Station Owners' Suit

SAN FRANCISCO, July 30.—The California oil companies apparently are not very much worried over the suit filed on July 21 in the superior court at Seattle, Wash., seeking damages totaling $1,000,000 from the Union Oil Co. of California, Shell Co. of California, Associated Oil Co. and the Gas Division of the Automotive Maintenance Association of Seattle, and officers and members of the latter.

The complaint was filed by John J. Kendle and Edward P. Dowdee, a partnership, owners and operators of a service station at Seattle. Plaintiffs charge that the defendants refused to sell them gasoline after plaintiffs had refused to sell at a stated price "fixed" by the Automotive Maintenance Association. The case is being handled by attorneys at Seattle for the California companies. On July 25 it was impossible to learn the latest developments from officials of the companies involved, but it is thought that the case has not been set for trial yet.

The plaintiffs claim that wholesalers had been selling gasoline to them at 4 cents under the regular posted service station price for some time, but that a contract was signed for a year to begin March 19, 1927, in which the Union agreed to sell at 6 cents below the service station price. When gasoline was retailing at 19 cents in Seattle, the plaintiffs were advertising and selling their gasoline at 16 cents retail for several weeks prior to May 28, 1927, claiming to do so within their lawful rights.

The complaint further charges the Gas Division of the Automotive Maintenance Association with coercion in inducing the Union Oil Co. to refuse to fulfill its contract and to refuse to deliver any gasoline to the plaintiffs as penalty for cutting prices 3 cents below the retail price fixed by the association. The association warned the Shell, Associated and Union companies, plaintiffs charge, that if they sold gasoline to the latter, the association would withdraw the trade of its numerous members from these three companies.

At a meeting of members of the association, it was decided, the complaint says, that the plaintiffs would not be allowed to purchase gasoline on the open market but that they could buy only from the Union Oil Co., after the association knew that the Union had refused to sell to the plaintiffs following the threats from the association.

The Lincoln Electric Co., Cleveland, O., following its custom established several years ago, will close its offices beginning Aug. 8 to Aug. 20 inclusive as a vacation period for plant and office employes. Only a few will remain in the general offices to handle emergency spare parts and orders.

The Holmes-Manley *Cracking* Process

Flexibility of Operation.

High Yield of Quality Gasoline direct from the Unit.

Fractionation and Condensation under Full Operating Pressure.

High Yield of Liquid Products with a minimum yield of fixed gas and carbon.

Low yield of Residue Fuel Oil of good Quality.

Relatively low Operating Temperatures.

Ease of Control.

Long Runs and High percentage of Operating Time.

Low Labor and Fuel Costs.

Address Inquiries to

THE TEXAS COMPANY

W. S. S. RODGERS

17 Battery Place, New York, N. Y.

Branch Office

816 Palace Building, Tulsa, Okla.

Oil Price Handbook

RECENT crude and tankwagon price changes have caused many an oil man to study prices prevailing a year ago at this time.

What was Mid-Continent crude a year ago today? Or, what was 58-60 U.S. Motor gasoline in Oklahoma? Or, the tankwagon price of gasoline a year ago? These are some of the questions you are asking yourself right now.

You can get the answers most conveniently, rapidly and accurately in the OIL PRICE HANDBOOK for 1926. It contains the refinery, tankwagon, crude prices and export markets for the entire year 1926 as published in the weekly issues of National Petroleum News. 146 pages, cloth bound, marginal index—price $5. Send for your copy *today*.

NATIONAL PETROLEUM NEWS **1213 W. 3rd St. Cleveland, Ohio**

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia, Louisville

REFINERS OF OKLAHOMA
TEXAS AND LOUISIANA

PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

Administration Worried As Gasoline Goes Up

WASHINGTON, July 28

ADVISERS of President Coolidge, which does not mean bureau chiefs, are nonplused by the upward trend of the retail price of gasoline in Washington. It is now generally 21 cents and in some instances 22 cents. Deducting the 2-cent tax that means 19 or 20 cents, with 58-60 U. S. Motor gasoline quoted in group 3 refineries from 7 to 7.25 per gallon on July 5.

The freight rate, all-rail, from group 3, to Washington, is 75 cents per 100 pounds, via any combination that can be made. That means, if the gasoline weighs as estimated, 6.6 pounds to the gallon, a freight rate of 4.95 cents per gallon.

All-rail rates do not carry gasoline from Oklahoma to Washington. The combination of pipe line rates to Bayonne or other eastern refining points means that the freight cost of the gasoline will be considerably less than 4.95 cents per gallon. By pipe line from group 3 to gulf ports and thence by tank steamer makes the cost much less. But assuming the cost to be equal to the all-rail freight rate plus the refinery price, these advisers of the administration cannot figure, why, in view of the lugubrious things said about the effect of the overproduction in the Seminole field and its extensions, the price of gasoline should be going up while the production of crude, on a relatively long swing, is also going up. Yet when the question of what help the national government might extend to the industry, by reason of the situation produced by the Seminole flood was considered in the conference of May 2, the retail price of gasoline in Washington was 16 or 17 cents. Now it is 19 or 20 cents, deducting the tax.

FRANKLY, the advisers of the administration are inclined to ask the industry, for an explanation of the seemingly contradictory facts. They are not claiming that they told the industry how it could save itself from inundation. However, they think the industry leaders should have discovered, from their attitude, that the federal government would not step on them if they took some measures which might look like a little disregard of the anti-trust law.

Secretary Work, chairman of the Federal Oil Conservative Board, has gone to Colorado. There is an idea that he will stop at Rapid City, S. D., for a talk with President Coolidge on the subject of oil before he returns to the city. There is no secret about the fact that Secretary Work is one of the men who has raised

his eyebrows in wonder about the development.

A suggestion is that if there is reason for a spread of more than 7 cents per gallon between the price at refineries in group 3 plus the all-rail freight rate, which is not the one that must be paid, the president's advisers wish the leaders in the industry would give it.

The latter do not believe there is a combination of retailers in Washington that is able to keep such a wide margin between the tank car price and the retail price as exists in Washington. They do not believe that, for instance, Walter C. Teagle, is being dragged at the wheels of a coterie of local dealers, or that Colonel R. W. Stewart is a mere figurehead in the affairs of what used to be the eastern part of the Doheny organization that has since passed into the hands of the Indiana Standard. Nearly all the big refiners are represented in Washington by directly controlled service stations.

Oriental Oil Builds New Offices And Station

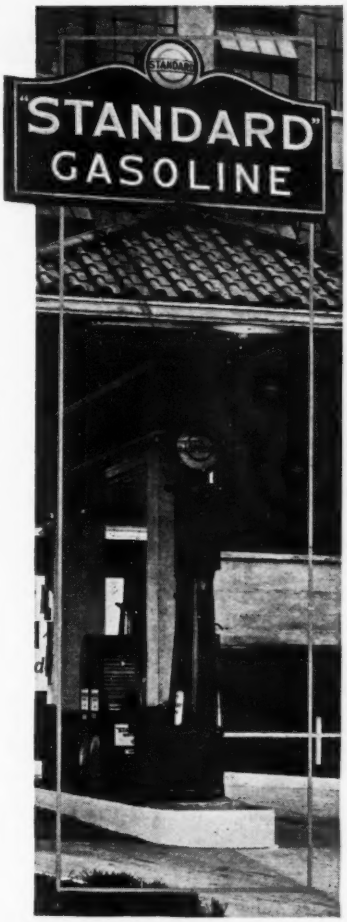
TULSA, July 28.—Celebrating its 23rd birthday the Oriental Oil Co. recently moved its general offices to a beautiful new office building and service station at the intersection of Pacific, Live Oak and St. Paul streets. The new building is triangular in shape with three wide driveways between Pacific and Live Oak streets. Offices of the company are on the second floor.

The Oriental Oil Co. was organized in 1904 by W. R. and Frank M. Smith with a capital of $2,000. These two men opened a drive-in station at Dallas to serve automobiles which were beginning to chug around the streets of the growing town. It is claimed that this was the first drive-in station in the United States.

The company now has two refineries at which it manufactures the gasoline it sells through its 17 stations in Dallas and its branches in San Antonio, Corpus Christi and Fort Worth. It maintains 20 traveling salesmen in addition to the city sales forces at the various branches and in Dallas.

The present million dollar corporation is still under the management of the two Smiths who organized the company in 1904. Miss Lela Towns, secretary, also has been with the company since it was organized.

First offices of the company were in a barn behind a livery stable. The first tank wagon was a one horse power truck hauled by a lop eared mule. Its driver, Frank Terry, was the man who originated the Oriental slogan, "Hurry Back," which is used now by a great many companies in all parts of the country.



Harnessed Sales Power

MUCH of the selling power developed by your advertising will be wasted —unless you can harness it directly to the work of making sales.

Flexlume Electric Displays on your filling stations supply the harness. Colorful and impelling, these projecting displays catch the motorist's attention far away and hold it while he approaches nearer and nearer to your pumps. No matter whether day or night, he cannot fail to see and read its invitation, "Stop here and fill up".

Write, today, to the FLEXLUME CORPORATION, 1124 Military Road, Buffalo, N. Y. for free color sketch and information concerning these sales-building displays. Or 'phone "Flexlume" — all principal cities.

Factories also at Detroit, Los Angeles, Oakland, Calif. and Toronto, Can.

FLEXLUME

FLEXLUME
ELECTRIC DISPLAYS

STEEL BUILDINGS for EVERY PURPOSE

WAREHOUSES
OIL STATIONS
GARAGES
PUMP HOUSES
SUB-STATIONS
METER HOUSES
BUNK HOUSES
TOOL SHEDS

FIRE-PROOF!
ECONOMICAL!
and SUBSTANTIAL!

Send for our complete catalog of "STEEL BUILDINGS"

THE EDWARDS MANUFACTURING CO.
524-544 Eggleston Ave. **Cincinnati, Ohio**

Refinery Runs Half Its Filters With Clay Once Discarded

By Paul Truesdell
N. P. N. STAFF WRITER

CLEVELAND, July 29

SUPPOSE a boiler plant had been burning coal every day for 30 or 40 years and had piled up the ashes alongside the plant until they reached the size of a mountain, a worthless mountain. Then suppose somebody invented a device which would take these ashes, put them through a cheap and simple process, and restore them to practically the fuel value of the original coal, and with very small loss. That, as Arthur Brisbane would say, would be important.

That hasn't been done but something very like it has been done in the matter of restoring used fuller's earth. It is done every day at the plant of the Conewango Refining Co. at Warren, Pa., according to Harry R. Lewis, manager of the refinery. It is likely that other refiners presently will be doing the same thing, particularly those eastern refiners who have been operating percolating filter plants for years and have piled up the spent earth.

The reason the restoring to usefulness of this old much-used earth is possible is because the methods of burning it have recently been so much improved. In place of the old clay-roasting furnaces, the Conewango has put in recently a new Herreshoff furnace, the first in the Pennsylvania field, according to Mr. Lewis.

With the old style furnaces, reburning of the clay could not be carried out profitably more than six or eight times. After each burning the clay was found to have lost much of its efficiency and the volume loss was also high because much of the earth would be calcined, that is baked so hard that its porosity was destroyed. After the eighth burning at most, the clay was dumped out on the lot some place where it was out of the way.

The Conewango Refining Co. had been doing this for years. The company's principal business is and always has been the manufacture of special brands of bright stocks on which its trade was founded. It has one of the largest if not the largest, percolating filter plant in the Western Pennsylvania refining district, with 72 filters. The chief step, of course, in making bright stocks from steam refined stocks is filtering and probably the largest item of expense is the cost of the fullers earth.

When Mr. Lewis took charge of the plant a couple of years ago, the chief problem that confronted him, in common with all other refinery executives, was to reduce operating costs to the minimum. He began to study the problem of clay restoration as one of the greatest possibilities of reducing costs.

The installation of the Hereshoff furnace was the result. Now the refinery is using the old fullers earth that had been piling up for years at the company's No. 2 plant in Warren. No. 2 is now shut down and has been for some time. The old, supposedly worthless clay is shoveled into trucks and hauled to No. 1 plant where the furnace is located.

It is then put through the furnace and comes out for all practical purposes as good as new earth. To the casual eye it looks almost exactly like new clay. The construction and operation of the Herreshoff furnace was described in an earlier issue of NATIONAL PETROLEUM NEWS.

The furnace is fired by gas burners, but when roasting this old earth so heavily coated and permeated with carbon, the gas burners are turned off after the furnace is brought up to temperature and the burning of the carbon itself keeps up the necessary temperature. The furnace at the Conewango plant has a burning capacity of 36 tons a day, and another furnace will be ordered in the near future.

So half the Conewango filters are now operating altogether on this clay that had been thrown away and Mr. Lewis says there is enough remaining to keep the plant running for several years without buying any new clay. When the plant is running with new clay, Mr. Lewis says he has not really found the limit to the possibility of reburning with the Herreshoff furnace.

Other refiners using the furnace say they have burned their clay 28 or 30 times and are still restoring it after every turn in the filter, bringing it back practically to its original state.

The company has recently built a new filter house containing six big filters. A noteworthy feature of this filter house is a manifold system that makes it possible for a man standing on the ground level to exercise complete control and observation of all the processes.

The manifold was designed by Alfred Gohn, foreman of the steam and power plant. Through manipulation of valves it is possible to direct the streams for either upward or downward filtering, to use the filters either in series or in parallel and to admit naphtha for washing and steam. Look boxes before the operator's eyes show plainly the nature of the stream coming off each filter.

How Low Price Station Man Cajoles Trade

CLEVELAND, July 29.—Here is how the operator of a cut price gasoline station in El Reno, Okla., makes his appeal to the business men and motoring public of El Reno. The following advertisement was printed in the El Reno Daily Democrat, July 19:

Think This Over
GAS—15 CENTS

MR. MERCHANT—
How much has it cost you in the past 2 years because of the high price of gas in El Reno by your customers trading in surrounding towns where gas was cheaper?

MR. THEATRE MAN—
How many people have gone to Oklahoma City and bought gas at from 11 to 17 cents a gallon and took in the shows while over there?

MR. CAFE OWNER—
Will Tourists stop at your restaurant for meals or at the next town where they can have their gas tank filled and save from 4 to 7 cents a gallon?

MR. BUSINESS MAN—
Is it good advertising for El Reno to be known as the highest priced town in the vicinity? Union City, Kingfisher, Oklahoma City, and all surrounding towns sold gas at from 11 to 17 cents—El Reno's price was always 3 to 5 cents above them. Does that help your town?

We are for El Reno and intend to sell gasoline at a fair margin of profit and we want your business.

We paid a premium to get good products and selected TYDOL Gasoline, highest grade nationally advertised gasoline on the market, and VEEDOL Oil—From the Tide Water Oil Company—There are none better.

Remember who brought the price of Gas down in El Reno and if you are an El Reno booster trade with us and let's keep it down.

McCURLEY FILLING STATION
At the south end of Macomb—just west of Arnold Marble Works

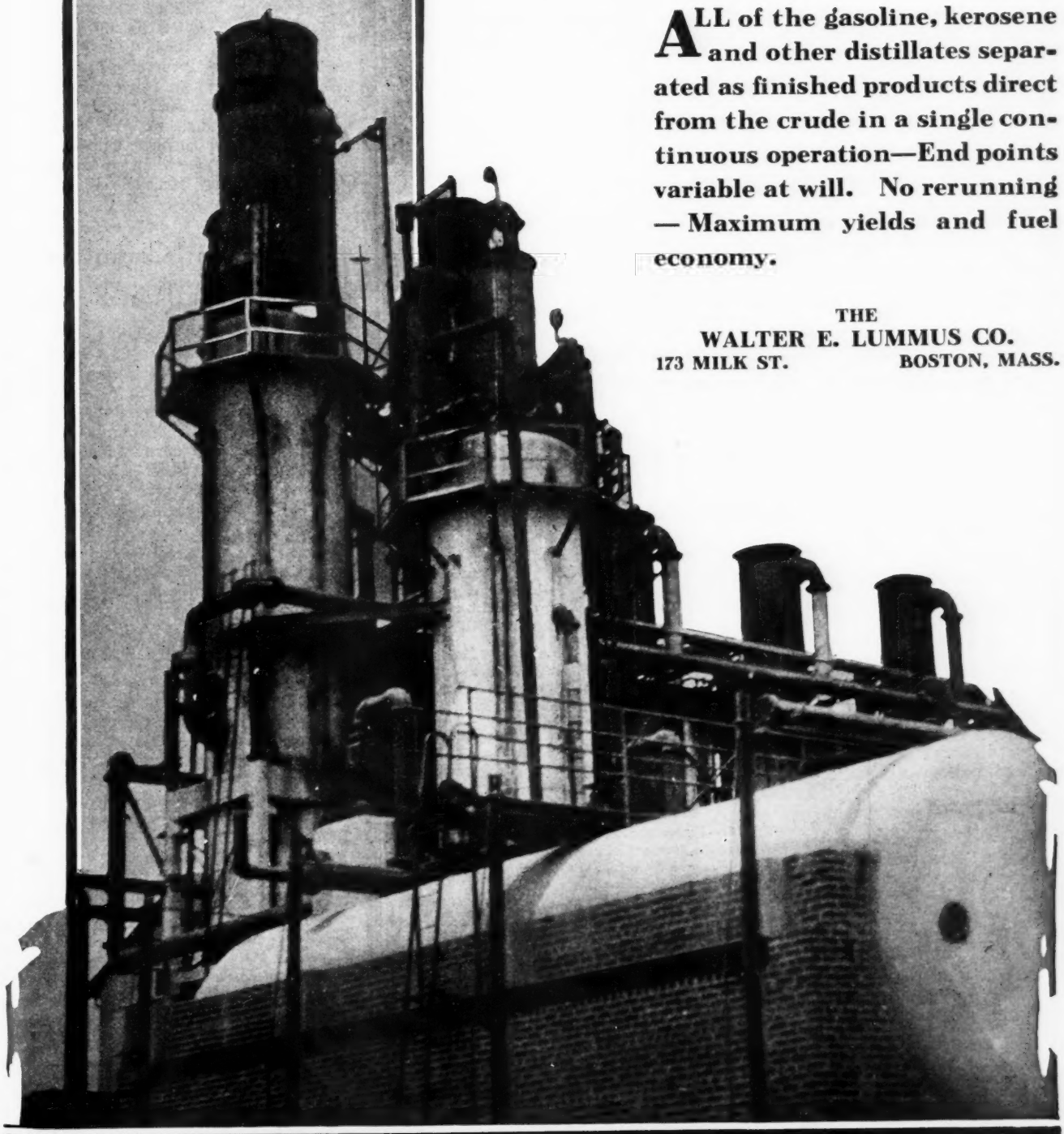
Warns Iron Gasoline Hose Couplings Cause Static

CLEVELAND, July 30.—Iron pipes or couplings should not be used on the ends of hose or valves through which gasoline has to pass because of the danger that a static spark might be generated, it was pointed out in a discussion in the rubber section of the National Safety Council, and just published in the news letter of the petroleum section. A paragraph from the discussion follows:

"Gasoline generates static electricity when being poured from one container to another or being run through a rubber hose. We have an instance where a man was drawing off gasoline from a 50-gallon container and sparks ignited the fumes with the result that it took about six hours' hard work by the fire department before the fire was extinguished and a loss of approximately $65,000. In this particular case the gasoline had to pass through an iron nipple fastened to the valve. Had it been bronze or brass this would not have occurred.

LUMMUS

Low Temperature Refining System



ALL of the gasoline, kerosene and other distillates separated as finished products direct from the crude in a single continuous operation—End points variable at will. No rerunning—Maximum yields and fuel economy.

THE
WALTER E. LUMMUS CO.
173 MILK ST. BOSTON, MASS.

NEW YORK WAREHOUSE
527 HUDSON STREET

COMPLETELY DENATURED
ALCOHOL

BERG

LOHOCLA

188 proof completely denatured alcohol for use as an *ANTI-FREEZE* in automobiles. Our distributors and warehouses at strategic points throughout the country assure prompt delivery "when you want it".

DAVID BERG INDUSTRIAL ALCOHOL CO.
Philadelphia, Pa.

DISTRIBUTORS

M. J. Daly & Co. 605 Gerke Bldg. Cincinnati, Ohio	J. Rosenfield P.O. Box 424 Lancaster, Pa.	A. H. Selling 527 Hudson St, New York City	Chas. A. Webb & Co. 514 S. Eutaw St. Baltimore, Md.
J. C. Drouillard Co. Kirby Bldg. Cleveland, Ohio	Rolls Chemical Co. 483 Ellicott Sq. Bldg. Buffalo, N. Y.	N.S.Wilson & Sons, Inc., 74 W. 2 St. Boston, Mass.	E.E. Zimmerman Co. Bessemer Bldg. Pittsburgh, Pa.
August Hoffman Majestic Bldg. Indianapolis, Ind.	H. H. Reed 549 W. Washington St Chicago, Ill.	W. P. Williams Co. 218 Ellsworth Ave. Grand Rapids, Mich.	Morley Bros. West End of Dodge Ave. Detroit, Mich.

Fig. 106
Screwed, Jenkins Standard Bronze Globe Valve

Fig. 108
Screwed, Jenkins Standard Bronze Angle Valve

You don't want "gushers" among your valves

Valves that spring leaks are uncommon where engineers standardize on Jenkins. Tight contact at the seat is provided by Jenkins design, while spindle-leakage is prevented by ample packing and follower held in position by the packing nut.

The Jenkins "Diamond" tells you that the valve is well made from the best metals, that it has been designed and built for maximum rather than average service, that it has passed a wide-margin safety.

Jenkins Valves, when so ordered, may be supplied specially packed and specially tested for oil service. Obtainable through supply houses everywhere.

JENKINS BROS.

80 White Street.....New York, N. Y.
524 Atlantic Avenue.....Boston, Mass.
133 No. Seventh Street.....Philadelphia, Pa.
646 Washington Boulevard.....Chicago, Ill.

JENKINS BROS., Limited
Montreal, Canada *London, England*

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

Lockwood Oil's Kenosha Properties Only Sold

MILWAUKEE, Wis., July 30.—Reports of the recent purchase by the Cities Service Oil Co., New York, of the Lockwood Oil Co., Kenosha, Wis., have stated that the Cities Service purchased the latter's properties at Racine, Wis. also.

The company which the Cities Service purchased was the C. H. Lockwood Oil Co., operating in Kenosha only, and popularly known as the Kenosha Lockwood Oil Co.

The Lockwood Oil Co. which operates in Racine is the parent company of the Kenosha Lockwood company, and is owned by the Wadhams Oil Co., Milwaukee. The Wadhams also owns the former subsidiaries of the Lockwood company which have operated as the Burlington Lockwood Oil Co., Burlington, Wis., and the Union Grove Lockwood Oil Co., Union Grove, Wis., according to Louis McNally, secretary of the Wadhams company.

Curtailment Continues In Hendricks Ranch Field

Staff Special

HOUSTON, July 28.—Immediate breaking-over of curtailment efforts in the Hendricks ranch field, Winkler county, has been averted by the failure of Texon Oil & Land Co.'s test in the southwest corner of the southeast quarter of sec. 41, block B-5, to show for oil.

At 2619 feet and with formations running structurally high, the Texon test is making about 8,000,000 cubic feet of gas daily. Deeper drilling may result in oil production, but it has been indicated by Texon officials that they will not press exploitation for the present should a well be completed.

Ten wells of other operators have been shut down in the lime formation, where the Winkler county pay is found, by the Southern Crude Oil Purchasing Co., Gulf Production Co., Pure Oil Co., Independent Oil & Gas Co., Humble Oil & Refining Co., and Atlantic Oil Producing Co. The three last mentioned companies each have one well shut down; Gulf and Pure, two each; and Southern Crude, three.

HOUSTON, July 28.—Funeral services were held at Clifton, Kan., for Robert B. Miller, for the last four years manager of the Dallas offices of the Miller Petroleum Co., who died July 25 at Dallas. Mr. Miller formerly lived at Kansas City. He was a member of the widely known Miller family of which the Miller Petroleum Co. was made up.

Gasoline Advertising in Everyday Words Holds Business Against Cut Prices

By V. B. Guthrie, Managing Editor

THERE'S a real idea for the local oil marketing company in an experiment in advertising gasoline the Indian Refining Co. is carrying on here and at Fort Wayne, Ind., and Indianapolis, all three points being branch headquarters.

Perhaps it may be wrong to describe it as an experiment, for when an experiment succeeds in doing what it was hoped it would do it ceases to be an experiment, and that's what has happened in Dayton, says P. C. Condor, manager of the company's business here. Anyway, the plan is to be carried on here and extended to other points as well.

It consists, in brief, in making advertising of gasoline human; in writing it for the man who drives a car, and doesn't care much about gasoline except what it does in his car, rather than for the oil man or the chemist and engineer. It has dropped entirely the use of such grand words as "super" and "ideal". Who knows what they mean after all? It has gotten clear away from high test, anti-knock, gravity, distillation range, end point and so on.

IT HAS adopted homely comparisons, with which every one is familiar to describe the nature of gasoline, such as, for example, a child arranging a set of blocks, each with one of the letters of the word gasoline on it, into proper arrangement to spell gasoline, to illustrate how the various hydrocarbons in gasoline have to be properly arranged to make good motor fuel. The illustrations themselves are rough drawn.

For one other thing, in the case of each district, it has gotten the names of local people into its copy, through making them ask questions, which the company's agent, or local distributor answers. Its effort is to make its advertising closer to the people it wants to sell—not the voice of some distant authority talking.

The local marketer has often felt himself stumped on the question of advertising. He believed in his own goods. He could talk their strong points to people by word of mouth. When it came to putting something in newspaper copy to tell of his business and his wares he felt like a fish out of the water. He reads, with a sinking feeling, the advertisements of motor fuel and gasoline, the national marketing companies carry. He feels their finish and technique and polish is beyond him.

He fails to realize that these same advertisements are often cold to the reader and give an impression of aloofness because they are removed from any contact with the community where they are read. He doesn't always appreciate that he has one asset in closeness of touch with the people he wants to do business with. He knows many of them, knows what they are interested in, knows the affairs of the community in which he sells oils, and could talk to the community in terms that would be read with sincerity because of his closeness of contact. The present Indian Refining campaign is an example of how advertising can be put in the words of street corner conversation in the community.

Like many another idea, the one on which this Indian Refining advertising is based was born of necessity and an advertising writer who has handled this company's work for some time was the author. J. R. Weddell is his name. A program of national advertising for the company's gasoline and motor oil had been worked out and was about to be started. Mr. Weddell was in Fort Wayne when a price war broke out there and it became necessary to do something at once to protect the gallonage of the Indian Refining dealer there from the lower prices of other dealers.

THE arranged and scheduled program went into the discard and Mr. Weddell took a room in a hotel there and shut himself in to work out the problem. He didn't have any books on advertising, or any artists to help him and he couldn't call in any other advertising men to give ideas; so he fell back on fundamentals. He thought about what the man on the street wanted to know about the gasoline he was buying for his car and he remembered how he used to explain things to his own little girl by drawing rough pictures as he went along with his explanation. So he started in to write his first advertisement for the Fort Wayne branch by writing a letter to Ed. O'Rourke, the company's agent there. Here is his letter, which was headed "An Open Letter to the Honorable Ed. O'Rourke:

"Sir: With due respect to your position as proprietor of a fine group of filling stations in Fort Wayne, known as Penn-Marr stations, I challenge you, as a practical oil man, to explain this chatter about anti-knock gasoline.

"The writer is one of those car owners who can tell gasoline from lemon pop by its smell and because it comes out of a fancy pump. But beyond that it's a mystery and so's my engine. I'm still thrilled by the fact that I can climb into my automobile and go anywhere I want to by turning a wheel, and as fast as I want to by pushing a lever. There are millions like me."

HE SIGNED it "Respectfully yours, J.R.W.", and drew a picture of himself writing the letter.

Then he wrote "Ed's Reply", and started off by saying:

"You say you still get a kick out of motoring. That's good. Because, if you were one of those sophisticated sophomores who take a motor car for granted, like a set of sound teeth, you'd never sit through this A.B.C. talk that I am going to give you.

"A knock in your motor is what you hear when you are going uphill. Ping, ping, ping, ping—like that."

"Any gasoline will knock if the compression within the motor and the load on the motor is sufficiently great.

"Nobody knows, not even the laboratory sharks, exactly what causes the knock. But the oil refiner—at least the up-to-date chap—knows how to make a gas that won't knock under reasonable conditions. Say on a hill—the kind most of us climb.

"THE secret is in the makeup of the gasoline. Gasoline isn't like water. Some water is pure and some is dirty and some is filtered, but it's all H_2O—just water. But gasoline is anything from kerosene to the gas vapor that comes from an oil well. And it has as many different forms as a sleuth has disguises.

"Take the name—gasoline. It's a combination of eight letters—G-A-S-O-L-I-N-E. Well, gasoline is a combination of elements, or parts, just like its name.

"The refinery boys can shift the different elements around just like a kid can shift his alphabet blocks. The trick is to get the different parts where they belong and in the right proportion.

"Some combinations will give a lot of pep, but no power. Other combinations will give a lot of power, but

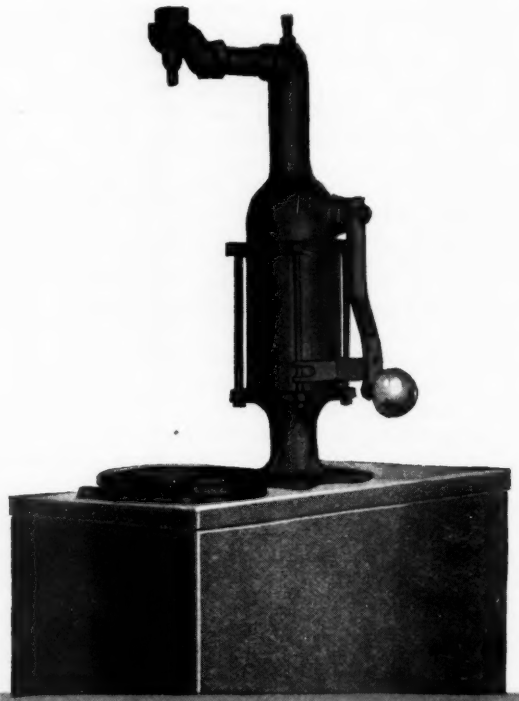
(*Continued on Page* 118)

Accurate Equipment
That Inspires Confidence

M-E-R-I-T
OIL EQUIPMENT

No. 325 Oval Grease Bucket
A 25 lb. bucket equipped with a ½ lb. grease pump. Merit makes two other styles of 25 lb. grease kits.

No. 200 Grease Outfit
Consists of a 100 lb. grease drum, mounted on a two wheel truck and equipped with a Merit ½lb. grease pump. This reliable outfit has demonstrated its usefulness and dependability to thousands of users.



ACCURATE equipment in neat service stations inspires confidence in your customers.

A battery of tank outfits, such as the Merit 116-S-65, shown here, gives the largest gallonage of oil per square foot of floor space— a neat and businesslike appearance to your station—a feeling of pride to every station attendant.

Merit-S-65

A rectangular 65 gal. tank outft, equipped with a 1-quart oil measuring pump, having Merit's special no-drip nozzel, bottle-filling spout, 5" fill opening with screen and gauge stick.

Send for Merit No. 4 Catalog, which describes the entire Merit line.

MERIT OIL EQUIPMENT CO.

Main Office and Factory

6616 Morgan Ave., Cleveland, Ohio

A Greater Profit

A Better Oil

Worthwhile Sales Assistance

An Exclusive Franchise

Write for Complete details on the "Nu-Pro" Merchandising Plan.

Nu-Pro New Process Oils

Some territories yet available to Successful Distributors

Write—Wire

An Approved Year 'Round Oil —worthy of the Best Efforts of any Successful Distributor. Guaranteed to satisfy "Both the Motor and the Motorist."

Deepwater Oil Refineries, Inc.

Houston, Texas

(*Continued from Page* 115)

no starting pep. The ideal combination will have enough of the light, peppy stuff to start quick and a lot of the solid punch stuff to give power.

Let's set the blocks up right.

"G—THAT'S our initial. At the refinery they call it 'initial boiling point', meaning the first part of the gasoline that will vaporize and burn.

"Add the next two letters.

"That's three letters out of 8, about one-third of the total, and that's the part that has to be quick on the trigger to start the big push against the piston head.

"The carry-through comes next—and that's the part of the mixture that mops up. It drives your piston clean to the bottom of your cylinder and burns itself out completely in the process.

"Now, here's a point—Gasoline doesn't explode, it burns. When it's put together right it burns with a Z-o-o-o-om—like a skyrocket.

"When it's put together wrong it burns with a bang—like a firecracker. And when it burns that way your motor knocks.

"The action of a real anti-knock gasoline is like the word POWER—'P' for starting pep; 'POW' for real kick; 'ER' for the windup. An anti-knock gas really does spell power—no joking. And it's a gift.

"Indian is that kind of gas. The engineers at the refinery in Lawrenceville, Ill., have learned their spelling. They build for pep, power and anti-knock and they sell at the regular price.

"And for that they go to the head of the class."

THAT was Weddell's first advertisement to meet a price war, with no price mentioned and only the slightest reference to it. But it caught public attention and held business for the stations.

Another advertisement—full page as were the rest—took up the price question more directly. It was captioned "Ed O'Rourke Answers a Hard One."

"You know O'Rourke. He runs a flock of drive-in filling stations in Fort Wayne. Calls 'em 'Penn-Marr' so folks will remember them. Good stations, well located, especially when you are out of gas.

"O'Rourke sells Indian gasoline—a lot of it. Which is another reason why folks remember him. And because he sells Indian we asked him a hard one.

"'What about this cut in the price of "high-test" gasoline around here? What are we going to do about it?'

"'Do about it', says Ed, 'Why sit tight and enjoy the fun.'"

Then the ad goes on, in the same style, to tell about the quality of Indian gasoline at the regular price.

Another tells something about cracked gasoline in the same vein. It is entitled "Cracked Gasoline, or how a Barrel of Crude Oil Goes Crazy with the Heat." It starts off, "You've been writing a lot about 'cracked gasoline' lately Senator (Senator is another name for Ed O'Rourke). I know about cracked ice, and I've had some hard nuts to crack in my day, but this talk about 'cracked gasoline' goes clear over my head. All I know about gasoline is the price-plus tax."

When it was decided to try the same advertising in Dayton, prominent people in that city were selected to ask the questions which would allow the various points about Indian gasoline to be explained the same way as in the Fort Wayne copy. Charles J. Moore, a prominent banker, was brought into the first ad, which was entitled "Charles J. Moore Asks a Question." His letter was:

"A couple of weeks ago, one of your ads telling about anti-knock gasoline interested me. I'll admit the story was good. I was glad to find out a few things about a commodity I use so much of.

"But you said something about power being another name for anti-knock. That stumped me. Sounded like you exaggerated somewhat; in other words like advertising hokum.

"What's the idea—anti-knock meaning power? Take a car that has a 36.4 horse power rating. You wouldn't say it had so much anti-knock rating, would you?"

One of the Dayton ads brought Mr. Weddell himself into the picture, as an amateur artist rather than an advertising man. It was called "Amateur Artist Takes Crack at Gasoline Advertising."

New Patents

Method of and Apparatus for Treating Petroleum. Joseph W. Lewis Jr., Philadelphia, Penna., assignor to The Atlantic Refining Co., Philadelphia, Penna. Filed April 4, 1925. No. 20,638.

Distilling with Aluminum Chloride.—Almer McDuffie McAfee, Port Arthur, Texas, assignor to Gulf Refining Company, Pittsburgh, Pa. Filed July 20, 1925. No. 44,797.

Method of and means for removing Foreign Gas from Condensers.—George Hilger, Chicago, Ill. Filed November 28, 1923. No. 677,383.

Apparatus for the Solidification of Liquid Hydrocarbons. Hippolyte Neveu, Paris, France, assignor to Ysabel de Paniagua, Paris, France. Original application filed April 3, 1922, No. 549,141, and in France Jan. 27, 1922. Divided and this application filed Sept. 27, 1924. No. 740,346.

Production

Core Barrel.—Walter N. Thompson, Taft, Calif., assignor by mesne assignments to Standard Oil Co. of Calif., San Francisco, Calif. Filed July 28, 1925. No. 46,631.

Pumping Equipment.—John Penrod and Robert D. Thompson, Okmulgee, Okla. Filed April 29, 1924. No. 709,746.

Derrick-Top Assembly.—Charles W. Lynch, Perry, Okla., assignor to Pickering Lumber Co., Kansas City, Mo. Filed August 18, 1926. No. 129,877.

Well-Drilling Rig.—George P. Gephart, Peabody, Kans. Filed Sept. 18, 1926. No. 136,330.

Well-Drilling Cutter and Bearing Therefor.—Clarence E. Reed, Wichita, Kans. Filed September 27, 1926. No. 138,061.

Rotary Deep-Well Drilling Apparatus.—Clarence E. Reed, Wichita, Kansas. Filed Oct. 27, 1926. No. 144,487.

Earth Boring Drill.—Clarence E. Reed, Wichita, Kans. Filed Mar. 1, 1927. No. 171,833.

Earth-Boring Drill. Clarence E. Reed, Wichita, Kans. Filed Mar. 1, 1927. No. 171,832.

Deep-Well Drilling Apparatus. Clarence E. Reed, Wichita, Kans. Filed Jan. 12, 1927. No. 160,688.

Earth-Boring Tool. Clarence E. Reed, Wichita, Kans. Filed March 12, 1927. No. 174,824.

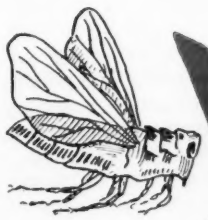
Retaining means for Spindles of Deep-Well Rotary Cutters. Fred K. Blauvelt, Wichita, Kans., assignor to Clarence E. Reed, Wichita. Kans. Filed Mar. 15, 1927. No. 175,570.

Miscellaneous

Liquid-Storage Tank.—John H. Wiggins, Bartlesville, Okla. Filed Oct. 12, 1925. No. 62,019.

Liquid-Storage Tank.—John H. Wiggins, Bartlesville, Okla. Filed Feb. 15, 1926. No. 88,308.

Gasoline-Dispensing Device.—Walter E. Splain and Howard L. Stackhouse, Cincinnati, Ohio, assignors by mesne assignments to United States Pump Corporation. Filed Jan. 21, 1924. No. 687,412.



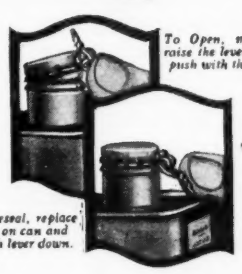
What Chance has a Flea

against such an array of ammunition

Good insecticide with killing power in Good looking containers like these

Sealed with a handy efficient closure like Kork-N-Seal

is bad news for the bug family



KORK-N-SEAL makes your package easy to use—Easy to open and easy to reseal. There's no spillage when pouring from the Kork-N-Seal nozzle.

Williams Sealing Corp.
Decatur Ill

Williams

KORK-N-SEAL

FOR BOTTLES AND CANS

Our Industry — A Page of Facts and Personalities

National Petroleum News

By Paul Wagner

SAM SEMPLE, who represents the Prairie Oil & Gas Co., in the Wichita Falls district, was the first secretary of the National Oil Scouts of America, serving in that capacity for two terms. Before his transfer to Wichita Falls, Semple was in the Panhandle and Ranger districts for the Prairie.

Semple is one of the best known scouts in the north Texas territory, and is highly regarded.

* * *

WALTER B. PYRON, third vice president of the Gulf Production Co., at Houston, is being temporarily addressed by his military title. He is spending his vaction, this July, putting the boys of the Texas National Guard through their paces at Mineral Wells. Mr. Pyron holds a title as major and regularly, every summer, spends about two weeks in National Guard Work.

* * *

FORT WORTH geologists had a sightseeing trip, through the "movie" camera's eye, the night of July 5, through the bottom of the Grand Canyon of the Colorado river. Dr. Raymond C. Moore, state geologist of Kansas and professor of geology at the University of Kansas, showed the picture and lectured on it in the auditorium of Texas Christian University. The Fort Worth Geological Society sponsored the event. The pictures were made by Dr. Moore and representatives of the United States Geological Survey on a boat trip through the canyon several years ago.

* * *

CISCO country club, enlarged and refinished, now ranks with the finest in central west Texas. It is situated on the shores of Lake Cisco, which provides plenty of water for bathing. The golf grounds also have been improved. W. W. Wallace, Humble Oil & Refining Co. superintendent at Cisco, Eastland county, is president.

* * *

"TEX" THORNTON, widely known in oil for his exploits in controlling burning wells in the Texas Panhandle by extinguishing them with shots of TNT, is now making a bid for producing honors. He is taking over a shallow well of the Engleking Drilling Co., in sec. 21, R. M. Thompson block B, near Hale Center, Hale county, and 1118 acres originally held by the sellers. A test in sec. 21, known as No. 1 Mullican, recently showed for a three barrel well at 407-412 feet. Thornton, who agreed to pay $60,000 for the well, acreage and drilling equipment, plans a pumping test. He also proposes to drill an offset.

SAM SEMPLE

* * *

PLANS are now afoot for the extension of the Kansas City, Mexico & Orient railroad from Alpine to Presidio, in the west Texas region, thus supplying transportation facilities to the International boundary. Construction is already proceeding northerly from Chihuahua City to the border. Filling-in of the two links in the existing gap would provide railroad facilities over the Orient from Wichita, Kan., to the west coast of Mexico, the dream of Arthur E. Stillwell of Kansas City, who originally promoted the system. The Orient is now the only railroad serving the southern part of the west Texas salt basin oil production area in Reagan, Crockett, Pecos, Crane and Upton counties, Texas.

* * *

JOE W. ELSBURY, chief scout of the Marland Oil Co. of Texas, Fort Worth, believes in spending what time he can in the field, keeping up closely with development and co-operating with his men. Elsbury finds this possible because of being able to leave many details of administration to his assistant, Art Galbraith, at Fort Worth.

Elsbury became chief scout about two years ago, after Dean W. Cummins had been transferred by the Marland interests to the Kay County Gas Co., pipeline and crude purchasing subsidiary of Marland Oil Co. of Delaware. He had been previously an assistant to Mr. Cummins and prior to that was a Gulf Coast field scout for the Gulf Production Co.

Galbraith also grew up with the work of the Marland companies in Texas, where he got his first producing division experience. He had been previously familiar with oil, however, in his connection with sales work of the Imperial Refining Co., in Ranger days, when Imperial had its headquarters temporarily at Fort Worth.

* * *

D. S. SCOTT of the executive offices of the Gulf Production Co., at Houston, is spreading the fame of New Braunfels as a Texas vacation resort. The town, 30 miles from San Antonio and about 50 miles from Austin, in along the Comal river in rugged country, with beautiful drives to the westward toward Boerne and Kerrville. Otto Warnecke, wealthy citizen, has built camping grounds in a horseshoe bend of the Comal river, in the center of which sets his New Braunfels home. About 75 cottages, which may be rented at nominal rates, surround it. Crystal-clear waters of the Comal, coursing through the grounds at a mile a minute, provide bathing facilities.

* * *

APPLICATION has been filed with the Interstate Commerce Commission for the merger of oil belt railroads serving the north Texas territory south from Wichita Falls to the general Ranger territory. It is proposed for the Wichita Falls & Southern to acquire stock control of the Wichita Falls, Ranger & Fort Worth road built by the late Jake Hamon, oil operator of Ardmore, Okla., and Frank Kell, Wichita Falls banker. The so-called Hamon road extends from the town of Jimkurn to Dublin, via Breckenridge and Ranger; Wichita Falls & Southern facilities extend north from Jimkurn to Wichita Falls, via Newcastle, Young county. A total of 169 miles of railroad would be merged under proposed plans.

New Stations Built or Being Built

Elizabeth City, N. C.—A chain of marine service stations, to be operated in conjunction with speed boats is being planned here by Allan and Tilton Hayman, sons of Capt. T. B. Hayman, designer and builder of speed boats.

Van Wert, O.—Johnson Oil Refining Co., Chicago, will erect filling station.

North Fairfield, O.—Howard Snively is completing filling station.

Messena, N. Y.—Potsdam-American Oil Co. seeks permit for filling station.

Longview, Tex.—Willis Booth will erect service station.

Peekskill, N. Y.—Gulf Refining Co. will build service station.

Dubuque, Ia.—Standard Oil Co. of Indiana will erect service station.

Columbus, Neb.—Continental Oil Co. will build filling station.

Augusta, Ky.—Home Oil Co. of Mayesville, Ky. will build service station here.

Staples, Minn.—Standard Oil Co. of Indiana is completing service station.

Lyons, Kans.—W. H. Trott will build filling station.

Kahoka, Mo.—William Ayers, of Luray, Mo., will build filling station here.

Arkansas City, Kans.—O. D. Sartin, of Cedar Vale, Kans., plans filling station here.

Houston, Tex.—A. B. Lewis will build filling station.

Cedar Falls, Ia.—Grundy Oil Co., of Grundy Center, plans filling station here.

Houghton, Mich.—Northern Garage Co. and A. A. Tillman each seek permit for service station.

Grundy Center, Ia.—Sinclair Refining Co. will build filling station.

Glenwood City, Wis.—Peter Peterson will erect service station.

Wakefield, Mass.—Miss Josephine Dailey, Lowell St., will erect service station.

Savannah, Ga.—Fred J. Howden seeks permit for filling station.

Mitchell, S. D.—The Texas Co. will build filling station.

Brooklyn, N. Y.—Harry Levy, 1457 Broadway, Manhattan, purchased property here for filling station.

Fredericktown, Mo.—J. W. Murray is completing filling station.

Little Rock, Ark.—C. A. Thomas will erect service station.

Muskogee, Okla.—Birdie Sharum and American Filling Station were each granted permits for filling stations.

Mertzon, Tex.—M. H. Wagner, agent of Pennant Oil Co., is completing filling station.

Cedar Rapids, Ia.—Standard Oil Co. of Indiana will build filling station.

Greenfield, Mass.—Filling station permit is being sought by George V. Corsiglia and Steven Maniatty.

Sistersville, W. Va.—Reno Oil Co. is completing service station.

Staten Island, N. Y.—Max Geidel and Ernest Henke will build service station.

Waterloo, Ind.—Day Bros., Edgerton, O., will erect filling station here.

Coldwater, O.—C. R. Jenkins will build filling station.

Waterbury, Conn.—Camillo Addavio seeks permit for service station.

Princess Anne, Md.—Standard Oil Co. of New Jersey is completing service station here.

Rochester, N. Y.—Marinus De Smit will build filling station.

Scranton, Pa.—Peter Pestinikas, 162 Church Ave., will build filling station.

Kansas City, Mo.—Two filling stations will be built here, one by Kyle Bales, and one by William B. Jenkins.

Clinton, Mo.—Marland Refining Co. plans to build service station here.

Council Grove, Kans.—Marland Refining Co. and George W. Keyte each seek permit for filling station.

Cushing, Okla.—Filling station will be built by J. H. Butcher.

Little Rock, Ark.—McGregor & Pickett will build filling station.

Tulsa, Okla.—Sun Oil Co. will erect service station.

Fulton, Mo.—Fulton Oil Co. is completing service station.

Macon, Mo.—Roxana Petroleum Corp. will build service station.

Omaha, Neb.—L. R. Etalio and M. C. Marino will erect service station.

Fall River, Mass.—Borden & Remington Co. will erect super-service station here.

LUCID LINE

Transparent Cup and Gun Grease

190° F Melting Point *No Solid Point*

The latest and the extreme development in Lubrication.

Ask for Samples.

LUCID CUP GREASE
LUCID GUN GREASE
VERSA-LITE

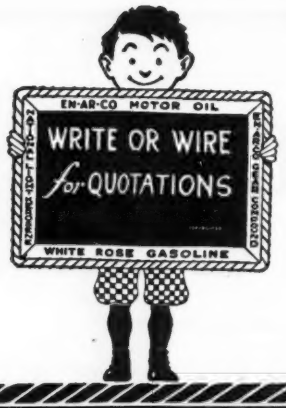
The best Chatterless Base in the world.
Our goods protect you on past and future infringement interference.

A. J. Stevens Grease & Oil Company
KANSAS CITY, MISSOURI

INVEST $3.85
for this M & S PRICE SIGN

Shows accurate total sale at a glance. Price and calculations changed by a turn of a screw driver. Takes care of 12c to 29c per gallon in even or fractional cents. Comes with or without words "Including Tax". Fits any pump. Put up in a minute. Complete for $3.85. In ordering state at what price you now sell gas and whether "Including Tax" is wanted. Invest $3.85. Order a trial M & S Price Sign today.

MARTIN & SCHWARTZ, Inc.
Mfrs. also of M & S Meter System Gasoline Pumps; M & S One-Gallon Kerosene and Gasoline Pumps; M & S Fittings.
2651-53 Main St., Buffalo, N. Y.



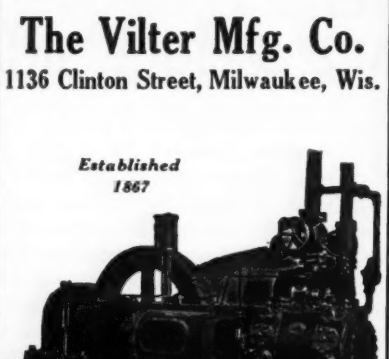
The
NATIONAL
REFINING
COMPANY
PETROLEUM PRODUCTS

THREE MODERN REFINERIES:
Marietta, Ohio Refinery
operated on Pennsylvania Crude
Findlay, Ohio Refinery
operated on Ohio Crude
Coffeyville, Kansas Refinery
operated on Midcontinent Crude

National Headquarters
NATIONAL BLDG., CLEVELAND, O.

The Vilter Mfg. Co.
1136 Clinton Street, Milwaukee, Wis.

Established 1867



Vilter High Speed Refrigerator Machine

Oil Refinery Equipment
Refrigerating Machinery
Oil Cooling Coils and
Gasoline Condensers

We will gladly figure on your requirements

Branch Offices in All Principal Cities

ON THE LAZY BENCH

National Petroleum News

Teacher—"Tell me what you know about the Mongolian race."

Student—"I wasn't there, I went to the base-ball game."—Our Sun.

* * *

Tuning Up the Ear Drums

Traffic Cop, halting a speeding motorist: "Say, what's the idea of paying no attention when I whistle for you to stop?"

The Speeding One: "I'm sorry, sir, but I am quite deaf."

Traffic Cop: "Well, we'll see that you get your hearing in the morning."

* * *

The Better Half

"Don't you know that you should always give half of the road to a woman driver?" asked the police of a motorist who came near having a collision on the street here with another car. "I always do," the man replied, "when I find out which half of the road she wants."

* * *

"I shall call again tomorrow, when I trust you will be prepared to pay the bill."

"Yes, do drop in. It's a pleasure to entertain an optimist like you."

* * *

The office dumbbell is at it again. Says he never heard Lincoln's Gettysburg Address—in fact he doubts if he ever lived there.

* * *

"A fellow wrote a letter to me and said he would kill me if I didn't stop flirting with his wife?"

"Well, you'd better stop flirting with his wife."

"That leaves me in a terrible fix. He didn't sign his name."

* * *

Motorist: "I killed your cat, I shall replace the animal."

Old Maid: "This is so sudden, but I'm afraid you can't catch mice."

—Okla. Whirlwind.

* * *

Little girl playing dentist, looking in little boy's mouth: "You have a cavity. What do you want it filled with?"

Boy: "Fill it up with chocolate."

—Wisconsin Octopus.

* * *

"What is a second story man, mother?" asked Fred's youngster.

"Your father is. If I don't believe the first one he tells, he has another ready."

* * *

"What kind of a fellow is Smith?"

"Well, if you ever see one fellow trying to borrow money from another, the fellow shaking his head is Smith."

—Colorado Dodo.

* * *

Sympathetic Friend: What's the matter with your thumb?

Victim: I hit the wrong nail.

—Blue Ox.

Employer—"Are you doing anything on Sunday evening, Miss Smith?"

Stenog.—"No, not a thing."

Employer—"Then try to be at the office earlier on Monday morning."

* * *

"Sorry, sir, but I'm all sold out of wild ducks. I could let you have a fine end of ham."

"Don't kid me! How could I go home and say I shot an end of a ham?"

* * *

"Sonny," said the family physician, "what shall I bring you, a brother or a sister?"

"If it is all the same to you, doctor, I'd like a pony."

* * *

If some one could invent a use for split hairs, some folks would be mighty useful.

* * *

Mary—Tom talks all the time. He just rattles on like a second-hand car.

Jane—Yes, but his clutch is so different.

* * *

1927 Traffic

Those who let grass grow under their feet are likely to have it growing over their heads before long.

* * *

She (indignantly): "You had no business to kiss me."

He (apologetically): "But, hang it all, it wasn't business—it was a pleasure!"—Exchange.

* * *

"Do I understand," said the irate parent, "that there is some idiotic affair between you and that impecunious young Dedbroke?"

"Not very much, Papa," replied his daughter sweetly, "only you."

—Drexerd.

Refinery - Tank Wagon Markets

National Petroleum News

Natural Gasoline and Kerosene Strong In Mid-Continent Market

Staff Special
TULSA, July 30

GASOLINE markets in the Mid-Continent field were dull during the last week of July. Jobber buying was down to a minimum for mid-summer and there was no export activity to relieve the monotony.

In direct contrast to refinery gasolines the natural gasoline market was active with buyers seeking both spot goods and large quantities for August delivery.

Kerosene demand was more than satisfactory. Current production was moved without difficulty and some demand made upon refinery storage. Prices were steady.

Fuel oils showed a tendency to lag in Oklahoma, due largely to competition of north Texas fuel. Local demand in that area has been declining for several months due to the competition of gas and refiners seeking a market in the north despite unadvantageous freight rates.

The slow gasoline market during the last week of July is attributed both to the reaction from the heavy purchases made earlier in the month and to the general uncertainty over the stability of petroleum markets as a whole. Probably the element of uncertainty has had a greater effect on trading than any other factor.

Early in the week a number of refiners reduced their prices on 58-60 U. S. Motor gasoline from 7.25 to 7 cents per gallon. At the close of the week some sales were being made as low as 6.75 cents per gallon. Some refiners refused to cut their official open quotations but gave their salesmen permission to accept orders at lower prices where they found customers in possession of 7-cent quotations from competitors.

This practise is generally referred to as "meeting competition," and generally amounts to the same thing as an open cut in price since salesmen usually can manage to find quotations at the lower price, particularly when an order is a little hard to land.

The price reductions apparently had no effect in stimulating business. As is often the case in a buyer's market the price reduction had the opposite effect.

It confirmed the jobber's opinion that the market was weak. Instead of buying the "bargain" he decided to wait out the market a little longer in the hope of getting an additional quarter of a cent per gallon.

Daily reports of sales to jobbers collected by Platt's Oilgram from 19 refining companies in Oklahoma which have approximately 82 per cent of the operating capacity of the state show the falling off in spot business quite clearly.

In the week ending July 20, this group of plant sold 784 cars of gasoline on the open market to jobbers outside of all contract agreements. In the following week sales were down to 641 cars, a loss of 143 cars or 18 per cent.

CONTRACT shipments have not been affected to the same extent as spot business. This is true despite the fact that many of the contracts are based on the market at date of shipment.

In addition to their disinclination to buy spot gasoline, jobbers have shown no enthusiasm about placing orders for August shipment in advance of their requirements. Normally a fair percentage of the gasoline business of any month is for delivery over from 15 to 30 days, orders being placed late the preceding month for shipment at regular intervals. But thus far there has been virtually no business booked by refiners for August shipment.

It is said that history has a habit of repeating itself and perhaps that is one reason why jobbers have been trying to wait out the market. In each of the last five years gasoline has sold at somewhat lower prices in August than in June and July. This has been due to mounting production of crude at the season of peak demand and in most of the past five years to the anxiety of at least some refining groups to liquidate excess gasoline stocks before the close of the season.

This year Mid-Continent refiners have reasonably low gasoline stocks so that there is no necessity for dumping but have been worried a great deal lately as to what the crude market may do in the next month or so. Predictions have been made freely in recent weeks that a cut in crude is inevitable unless Seminole production is curbed.

Just now there is much hope that a voluntary proration of production in greater Seminole may be successful. It is proposed to cut the production of the field as a whole down to around 450,000 barrels per day, a cut on the present production of about 65,000 barrels per day.

There appears to be more unanimity of opinion among Seminole operators now than ever before and indications are that the move may be successful where earlier efforts to achieve the same result have been fruitless.

Opinion among refiners is that the crude market will be stabilized as long as the proposed proration is in effect. They believe that the gasoline market will gather strength again as jobbers are forced back into the market to meet August and September demand of motorists and that 58-60 U. S. Motor may be held around the present 7-cent level.

IT IS a remarkable fact that there is no distress crude available to Oklahoma refiners at prices under the posted market. It is the so-called "Bootleg" crude during periods of proration which do gasoline markets the most harm by causing motor fuels to be made at prices which cannot be met by refiners with crude under contract at posted prices.

As long as crude remains at its present price level refiners feel that their gasoline prices cannot fall much below 7 cents without a heavy curtailment of operations to minimize manufacturing losses. Thus far this year there has been no season of good profits during which refiners could build up a cash surplus to absorb later losses.

An interesting development of the market during the past week has been the revival of interest in natural gasolines. Buying for several large accounts started a little over a week ago and boosted prices up about 0.5

JENKINS CRACKING PROCESS

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Almost any refining method will make money for the refiner in a seller's market. But it requires real operating economy and a high quality product for profitable operation in a market with narrow margins.

Jenkins Licensees have advantageously operated their Units thru every market condition, including the present one.

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Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ sign is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

	Prices Aug. 1	Prices July 25	Prices July 18
PENNSYLVANIA			
52-54 Naphtha	8.75 – 9.00	8.50 – 8.75	9.00 –10.00
54-56 Naphtha	8.75 – 9.00	8.75 – 9.00	9.00 –10.00
58-60 Gasoline	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
60-62 Str.-run gasoline	9.25 –10.00	9.375–10.00	9.50 –10.00
64-66 Str.-run gasoline	9.75 –10.50	10.00 –10.50	10.00 –10.50
68-70 Str-run gas. 350-360 e.p.	10.25 –10.75	10.50 –10.75	10.50 –11.50
OKLAHOMA			
48-50 450 e.p. naphtha	6.75 – 6.875	7.00	6.625– 6.75
50-52 450 e.p. naphtha	6.75 – 6.875	7.00	6.625– 6.75
56-58 450 e.p. gasoline	6.75 – 6.875	6.75 – 7.00	6.75
58-60 450 e.p. gasoline	6.875– 7.00	6.875– 7.00	6.875– 7.00
56-58 U. S. Motor, 437 e.p.	††7.00	††7.00	††7.00
58-60 U. S. Motor, 437 e.p.	6.75 – 7.25	7.00 – 7.25	7.125– 7.25
60-62 437 e.p. gasoline	7.00 – 7.375	7.125– 7.375	7.00 – 7.375
60-62 400 e.p. gasoline	**7.125– 7.75	**7.25 – 7.75	**7.25 – 7.75
64-66 390 e.p. gasoline	**7.25 – 7.75	**7.375– 7.75	**7.375– 7.75
64-66 375 e.p. gasoline	**7.25 – 7.875	**7.50 – 7.875	**7.50 – 7.875
68-70 350-360 e.p. gasoline	**7.75 – 8.00	**7.75 – 8.00	**7.75 – 8.00
KANSAS (F. O. B. refinery Kansas destination)			
58-60 U. S. Motor 437 e.p.	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
60-62 400 e.p. gasoline	7.50 – 7.75	7.50 – 7.75	7.50 – 7.625
64-66 375 e.p. gasoline	7.75	7.75	7.50 – 7.75
NORTH TEXAS			
48-52 450 e.p. naphtha	† 6.50	†6.50	†6.50
56-58 450 e.p. gasoline	† 6.50	†6.50	†6.50
58-60 450 e.p. gasoline	6.50 – 6.625	6.50 – 6.625	†6.50 – 6.625
58-60 U. S. Motor 437 e.p.	6.625– 6.75	6.75 – 6.875	6.75 – 7.00
60-62 400 e.p. gasoline	6.875– 7.125	7.00	7.00
64-66 390 e.p. gasoline	6.875– 7.125	7.00 – 7.25	7.00 – 7.25
64-66 375 e.p. gasoline	7.125– 7.375	7.25 – 7.375	7.25 – 7.375
68-70 350-360 e.p. gasoline	* 7.50	*7.50	**7.50
NORTH LOUISIANA (For Louisiana and differential territory destination)			
56-58 U. S. Motor gasoline	7.125	7.25	7.25
ARKANSAS (For Arkansas intrastate shipment)			
56-58 450 e.p. gasoline	7.00	7.00	7.00
58-60 450 e.p. gasoline	7.00	7.00	7.00
58-60 U. S. Motor 437 e.p.	7.25	7.25	7.25
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
58-60 U. S. Motor 437 e.p.	7.25	7.25	7.00 – 7.25
CALIFORNIA			
*54-58 U.S. Motor 437 e.p.	7.50 – 9.00	7.50 – 9.00	8.00 – 9.50
*58-61 U.S. Motor 437 e.p.	9.00 –10.00	9.00 –10.00	9.00 –10.50
*42-45 Eng. dis. 445-480 e.p.	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
*2c tax to be added if used in state.			
NEW ENGLAND			
58-60 U. S. Motor gas	8.875	8.92	9.10

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	4.75 – 5.00	4.75	4.50
Grade A, 72-79.9, 90% Recovery	5.00 – 5.125	5.00 – 5.125	4.875
Grade BB, 84-92, 85% Recovery	4.50 – 4.625	4.50 – 4.625	4.25 – 4.375
Grade B, 76-83.9, 85% Recovery	4.50 – 4.625	4.50 – 4.625	4.25 – 4.375
Grade C, 80-90, 78% Recovery	4.50	4.50	4.125– 4.25
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	4.75 – 5.00	4.75	4.50
Grade A, 72-79.9, 90% Recovery	5.00 – 5.125	5.00 – 5.125	4.875
Grade BB, 84-92, 85% Recovery	4.50 – 4.625	4.50 – 4.625	4.25 – 4.375
Grade B, 76-83.9, 85% Recovery	4.50 – 4.625	4.50 – 4.625	4.25 – 4.375
Grade C, 80-90, 78% Recovery	4.50	4.50	4.125– 4.25
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	† 5.25	†5.25	†5.00
Grade BB	†4.875– 5.125	†4.875– 5.125	†4.875
Grade C	†4.875– 5.00	†4.875– 5.00	†4.625– 4.75
CALIFORNIA			
75-85, 375-390 e.p. blend	8.00 –10.00	8.00 –10.00	8.00 –10.50

MOTOR FUEL BLENDS

PENNSYLVANIA			
68-70 Blend 437 e.p.	Prices	.....	.....
64-66 Blend 437 e.p.	Temporarily	.....	.....
60-62 Blend 437 e.p.	discontinued	.....	.....
OKLAHOMA			
64-66 Blend 437 e.p.	6.50 – 6.625	6.50 – 6.625	6.125– 6.50

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	6.00 – 6.25	6.125– 6.25	6.00 – 6.25
46 w.w. kerosene	6.375– 6.75	6.375– 6.75	6.50 – 6.75
47 w.w. kerosene	6.875– 7.25	6.875– 7.25	7.00 – 7.25
OKLAHOMA			
41-43 w.w. kerosene	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
42-44 w.w. kerosene	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	5.25 – 5.50	5.00 – 5.25	5.00
42-44 w.w. kerosene	5.50 – 5.75	5.25 – 5.75	5.25 – 5.50
NORTH TEXAS			
40-42 w.w. kerosene	† 3.75	†3.875	†3.875
41-43 w.w. kerosene	3.875	3.875– 4.00	3.875– 4.00
NORTH LOUISIANA (For Louisiana and differential territory destination)			
41-43 w.w. kerosene	†4.375– 4.625	†4.375– 4.625	†4.50 – 4.75
ARKANSAS (For intrastate shipment only)			
41-43 kerosene	4.25	4.25	4.25
42-44 kerosene	4.50	4.50	4.50
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
41-43 kerosene	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
42-44 kerosene	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
CALIFORNIA			
38-40 w.w. kerosene	5.00 – 6.00	5.00 – 6.00	5.00 – 6.00
NEW ENGLAND			
40-43 w.w. kerosene	††7.00	††7.25	††7.25

NEUTRAL OIL

Vis.	Prices Aug. 1	Prices July 25	Prices July 18
PENNSYLVANIA	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	34.00 –35.00	34.00 –35.00	34.00 –35.00
180 No. 3 Assoc. Filt.	30.50 –32.00	32.00 –33.00	32.00 –33.00
150 No. 3 Assoc. Filt.	27.50 –28.50	28.00 –28.75	28.00 –28.50
	(Non Viscous)		
34 Grav. 330-340 Flash	7.00 – 7.75	7.00 – 7.75	7.00 – 7.75
36 Min. Neut. 300-305 Flash	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
Vis. Color	**OKLAHOMA (Viscosity at 100°F.)**		
100—No. 2	6.00 – 7.50	6.00 – 7.50	6.00 – 7.50
150—No. 3	8.50 – 8.75	8.50 – 8.75	8.50 – 8.75
150—No. 4	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
180—No. 3	9.00 –10.00	9.00 –10.00	9.00 –10.00
180—No. 4	9.75	9.75	9.75
180—No. 5	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
200—No. 3	10.00 –11.00	10.00 –11.00	10.00 –11.00
200—No. 4	10.50 –10.75	10.50 –10.75	10.50 –10.75
200—No. 5	9.00 –10.50	9.00 –10.50	9.00 –10.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	14.00 –15.00	14.00 –15.00	14.00 –15.00
240—No. 4	13.50	13.50	13.50
240—No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3	16.00 –17.00	16.00 –17.00	16.00 –17.00
280—No. 4	15.25	15.25	15.25
280—No. 5	14.00 –15.00	14.00 –15.00	14.00 –15.00
300—No. 5-6	17.00	17.00	17.00
Vis. Color	**GULF COASTAL (Viscosity at 100° F., pour test 0)**		
100—No. 2 Unfilt. Pale	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
200—No. 3 Unfilt. Pale	10.00 –10.50	10.00 –10.50	10.00 –11.00
300—No. 3 Unfilt. Pale	10.50 –11.00	10.50 –11.00	11.00 –12.00
500—No. 3½ Unfilt. Pale	12.50 –13.00	12.50 –13.00	13.00 –14.00
750—No. 4 Unfilt. Pale	15.00 –15.50	15.00 –15.50	15.00 –16.00
200—No. 5½ Red Oil	7.75 – 8.25	7.75 – 8.25	8.50 – 9.00
300—No. 5½ Red Oil	9.00 – 9.50	9.00 – 9.50	9.50 –10.00
500—No. 6 Red Oil	11.00 –11.50	11.00 –11.50	11.00 –11.50
750—No. 6 Red Oil	13.50 –14.00	13.50 –14.00	14.00 –14.50
Vis. Color	**CALIFORNIA (Viscosity at 100°F.)**		
100—No. 2	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
100—No. 3	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
200—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3	10.50 –11.00	10.50 –11.00	10.50 –11.00
450—No. 3-3½	13.00 –13.50	13.00 –13.50	13.00 –13.50
550—No. 3-3½	14.50 –15.00	14.50 –15.00	14.50 –15.00
600—No. 3-3½	15.00 –15.50	15.00 –15.50	15.00 –15.50
100—No. 5	6.50	6.50	6.50
200—No. 5	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
400—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
500—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
600—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
700—No. 7	14.00 –14.50	14.00 –14.50	14.00 –14.50

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	26.00 –28.00	26.00 –28.00	26.00 –28.00
600 E St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA	(1-inch Immersion Test)		
600 Steam Refined	8.50 – 9.00	8.75 – 9.50	8.75 – 9.50
650 Steam Refined	11.00 –12.00	11.50 –12.50	11.50 –12.50
600 Flash	16.00 –17.00	17.50 –18.50	17.50 –18.50
625 Flash	26.00 –28.00	26.50 –28.00	26.50 –28.00
600 Warren E	19.00 –19.50	19.00 –19.50	19.00 –19.50
600 Oil City E	18.00 –18.50	18.00	17.00 –18.00
600 D Filtered	25.50 –26.00	25.00 –26.00	25.00 –26.00
Cold Test Stocks (brt. filt.)	34.00 –34.50	33.00 –33.50	33.00 –33.50
Cold Test Stock (dark filt.)	32.00 –32.50	31.00 –31.50	31.00 –31.50

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher)

LONG RESIDUUM STOCKS

PENNSYLVANIA			
60-65 vis. @ 210, 440-450 flash No. 5½ color	34.00	34.00	34.00
70-75 vis. @ 210, 450-455 flash No. 6 color	34.00 –35.00	34.00 –35.00	34.00 –35.00
80-85 vis. @ 210, 440-450 flash No. 7 color	37.00	37.00	37.00
80-85 vis. @ 210, 450-460 flash No. 7-8 color	35.00 –37.00	35.00 –37.00	37.00
80-85 vis. @ 210, 460-465 flash No. 7 color	37.00 –38.00	37.00 –38.00	37.00 –38.00
95-100 vis. @ 210, 490-495 flash No. 8 color	39.00	39.00	39.00

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING *QUOTATION ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

Patent Pending

MORE OIL SALES

With oil displayed in this Rack holding 24 Dispensers. Has hinged caps covering each spout. All Bottle trays removable. The Neatest and Best Rack on the market.

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Paint 12,000 square feet per day with Paasche Airbrushing Equipment

"I just finished painting a total area of 32,940 square feet with my Paasche No. 56 portable painting outfit. I averaged 12,000 square feet per 8 hour day and made a very creditable record in paint consumption"—writes one Paasche owner.

Here is the profitable combination of speed and perfect coverage you need in painting the tanks and buildings of your plant. You can easily duplicate this record with a Paasche outfit.

The Paasche Multiplehead Airbrush applies any kind of paint, atomizing it perfectly, giving quick, smooth and complete coverage. Owners are reporting savings of $2 and $3 on every gallon applied with Paasche. Send for the full story.

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1925 DIVERSEY PARKWAY, CHICAGO, ILL.

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San Francisco, Calif.
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NPN8-3 Gray

A LUMBER WAGON AND A ROLLS-ROYCE

Are somewhat different and yet alike, inasmuch as they both have four wheels. The same holds true in the difference between the requirements of a gasoline tank of the old fashioned wagon delivery and the modern bus chassis. Brown Certified Tanks are custom built for the particular chassis for which they are intended. We are specialists in this line and ask that you let us figure on your requirements.

BROWN Certified TANK
Brown Sheet Iron & Steel Co.
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Speed with Safety

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DON'T DELAY—SIGN THE COUPON AND LET US KNOW WHAT YOU WILL NEED.

Check Items on which you want prices.

Complete Bulk Station..... Number of Tanks..... Size.....

Filling Station Tanks..... Size..... Pumps.....

Truck Tanks..... Size..... Compts.....

Other Equipment.....

Name..... Address.....

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ sign is shown

(For quick reference to Refinery prices, get the OIL PRICE HANDBOOK, published annually)

WAX

*PENNSYLVANIA	Prices Aug. 1	Prices July 25	Prices July 18
122-124 white crude scale.	3.00	3.00 – 3.125	3.00
124-126 white crude scale.	3.00	3.00 – 3.125	3.00 – 3.125
*Per Pound, New York			
OKLAHOMA			
*124-126 white crude scale, per pound	*2.35 – 2.50	2.375– 2.625	2.375– 2.625
*Represents quotations and sales.			
CALIFORNIA			
White crude scale, per pound	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00

FUEL OIL

PENNSYLVANIA			
36-40 fuel oil	4.50 – 5.00	4.625– 5.00	4.75 – 5.00
30-34 fuel oil	4.25 – 4.50	4.50 – 4.75	4.50 – 4.75
28-32 fuel oil	4.25 – 4.50	4.50 – 4.75	4.50 – 4.75
OKLAHOMA			
38-40 straw distillate	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
36-38 straw distillate	3.00	3.00	3.00
32-36 gas oil, cracked	2.625– 2.75	2.75	2.75
32-36 gas oil, str. reduced	2.625– 2.75	2.75	2.75
28-30 fuel oil (in bbls.)	$0.975– 1.00	$1.00 – 1.05	$0.95 – 1.00
26-28 fuel oil (in bbls.)	$0.925– 0.95	$0.95 – 1.00	$0.95
24-26 fuel oil (in bbls.)	*$0.90	*$0.90 – 0.925	*$0.90
22-26 fuel oil (in obls.)	*$0.875– 0.90	*$0.90	*$0.90
18-22 fuel oil (in bbls.)	$0.85 – 0.875	$0.90	$0.90
16-18 fuel oil (in bbls.)	*$0.85	*$0.85 – 0.875	*$0.85– 0.87
14-16 fuel oil (in bbls.)	*$0.85	*$0.85	*$0.85 5

†Prices nominal. *Represents Sales and Quotations.

KANSAS (F. O. B. refinery Kansas destination.)			
38-40 straw distillate	3.50 – 3.75	3.50 – 3.75	3.50
36-38 straw distillate	3.25 – 3.50	3.25 – 3.50	3.25
32-36 gas oil	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
24-26 fuel oil	*$1.05 – 1.10	*$1.05 – 1.10	*$1.05 – 1.10
18-22 fuel oil	*$0.90 – 1.00	*$0.90 – 1.00	*$0.90 – 1.00
*Quotations only.			
NORTH TEXAS			
38-40 straw distillate	3.125– 3.25	3.125– 3.25	3.00 – 3.25
32-36 gas oil, cracked	2.50 – 2.625	2.625– 2.75	2.50 – 2.625
32-36 gas oil, uncracked	2.50 – 2.625	2.625– 2.75	2.625 – 2 75
24-26 fuel oil (in bbls.)	$0.775– 0.825	$0.825– 0.875	$0.85 – 0.90

GULF COASTAL	Prices Aug. 1	Prices July 25	Prices July 18
Fuel (in bbls.)	$1.60 –$1.65	$1.60 –$1.65	$1.60 –$1.65
Gas oil	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
NORTH LOUISIANA (For Louisiana and differential territory destination)			
32-36 gas oil, cracked	3.125– 3 25	3.125– 3.25	3.00 – 3.25
32-36 gas oil, uncracked	3.125– 3.25	3.125– 3.25	3.25
16-20 fuel oil (in bbls.)	$1.15 – 1.20	$1.15 – 1.20	$1.125– 1.15
ARKANSAS (For Arkansas intrastate shipment only)			
32-36 gas oil, straw	3.25	3.25	3.25
28-32 gas oil	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
Road oil	$1.25 – 1.30	$1.25 – 1.30	$1.25 – 1.30
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
28-32 gas oil	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
Smackover crude fuel	$1.10 – 1.15	$1.10 – 1.15	$1.10 – 1.15
Road oil	$1.15 – 1.25	$1.15 – 1.25	$1.15 – 1.25
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (in bbls.)	$0.65 –$0.90	$0.65 –$0.90	$0.65 –$0.90
14-18 Bunker oil (in bbls.)	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.00
30-34 gas oil (in bbls.)	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
27 Plus Diesel oil (in bbls.)	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
NEW ENGLAND			
30-32 gas oil	5.42	5.42	5.40
Fuel oil (Bunker C) in bbls.	$1.72	$1.72	$1.70

PETROLATUMS

PENNSYLVANIA (In cents per pound in tank cars; in barrels, in car lots ¾c per pound more.)			
Snow White	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
Lily White	6.25	6.25	6.25
Cream White	5.25	5.25	5.25
Light Amber	2.625– 2.75	2.625– 2.75	2.625– 2.75
Amber	2.375– 2.50	2.375– 2.50	2.375– 2.50
Red	2.125	2.125	2.125
Green No. 5 color	1.50	1.50	1.50

*PETROLEUM COKE

(Per ton in car lots)

Lump	$5	$5	$5
Still run	$3	$3	$3
Breeze	$2	$2	$2

*Represents quotations and sales.

cents per gallon on all grades. This week has seen a fair number of additional spot orders of consequence and a good advance business for August.

IN RECENT months most of the natural gasoline buying has been by local refiners and by large interests on the Gulf. Lately there has been a renewal of interest among northern and eastern refiners and some increase in buying by Gulf refiners.

One large Texas company has been seeking 350 cars of natural gasoline for August use in addition to its usual contract takings. The same company indicated a desire to buy 200 cars per month up to the first of the year.

The renewal of buying interest has made it somewhat difficult for buyer and seller to get together on price. The manufacturers are indicating a desire to quote a half cent or more above present prices where purchasers want a fixed price. In most cases a compromise on a market-date-of-shipment agreement is being reached.

The excellent kerosene business of the past few weeks has caused some talk of higher prices. In Kansas prices have been advanced 0.25 to 0.50 cent per gallon but in Oklahoma the price has been steady at 4 to 4.25 cents per gallon for 41-43 and 4.25 to 4.50 for 42-44.

Some refiners have found current demand to be in excess of their ability to deliver and have been forced to buy on the outside. Early in the week one refiner bought 25 cars of 41-43 from a competitor at 4 cents buyers cars. An export inquiry was in the field with no refiner quoting on the business.

Stove distillate was featureless. Sales were fair considering the off season and prices were unchanged.

In north Texas refiners have piled up a surplus reserve of fuel oil which is almost three times as large as it was at the first of the year. On Dec. 31, Texas plants with a capacity of 144,300 barrels per day reported to NATIONAL PETROLEUM NEWS that their fuel oil stocks totaled 10,618,000 gallons which was only a little over one week's supply. Since that date the stocks have increased almost continuously until the report for July 22 showed 29,522,000 gallons, an increase of nineteen million gallons or 179 per cent.

In Kansas and north Louisiana and Arkansas there has been little change in fuel oil stocks during the six months period that Texas stocks have increased. But Oklahoma refiners have enjoyed a remarkable business in fuel which has cut their stocks in half.

OKLAHOMA refiners reporting to NATIONAL PETROLEUM NEWS on Dec. 31 showed stocks totaling 60,136,000 gallons of fuel oil on hand while on July 22 this had been cut to 34,849,000 gallons, a reduction of 25,000,000 gallons or 41.6 per cent.

Oklahoma and Kansas refiners have enjoyed good fuel prices in spite of low crude markets throughout the first seven months of the year. At the same time Texas prices have fallen almost continuously. From a peak of around $1.60 per barrel 24-26 north Texas Fuel is down to around 80 cents per barrel.

At this price refiners are finding it possible to move their fuel into the north in competition with Oklahoma. The southern competition has caused Oklahoma fuels to slow down to some extent and prices are fractionally lower today than a week ago.

Demand for lubricating oils, bright stocks particularly has been a little slower during the past week. Wax inquiries have picked up, however, although offering prices still are low. Current wax sales are being made at 2.35 to 2.50 cents per pound.

ASHLAND, Aug. 1.—Today's prices in eastern Keutncky refining district are:

60-62, 400-425 e. p. gasoline	9.625
64-66, 365-375 e. p. gasoline	10.00
68-70, 325-350 e. p. gasoline	10.50
41-43 w. w. kerosene	6.50
34-36 gas oil	4.75
24-26 fuel oil	3.625
14-15 fuel oil	3.375

Gasoline Demand Continued Good To the End of July

CHICAGO, July 30

UNUSUAL week-end activity developed in the retail gasoline trade in Chicago during the last few days of July. It was due to the fact that the Illinois 2-cent gasoline tax becomes effective on Monday, Aug. 1, and consumers did not have to pay tax on gasoline purchased before that date.

Association men, jobbers and some Independent retailers circularized the trade advising them to fill their tanks Saturday and Sunday and save 2 cents a gallon. The response by large industrial consumers in Chicago with extensive storage of their own, was noticeable in the oil community.

Gasoline of U. S. Motor specification was in fair demand all week. Buying was mostly in small lots. One marketer reports selling more 58-60 U. S. Motor gasoline this month than last. It opened the week with sales ranging from 7 to 7.25 cents; dropped to 7 to 7.125 cents on Tuesday and sold at 7 cents generally on Wednesday and Thursday. Decline continued over Friday, and Saturday found predominating price 6.75 to 7 cents, with a few cars reported sold for less. Reports differed on gasoline for shipment over August. Some quarters reported a good number of inquiries while others said jobbers were holding off and not inquiring.

High test gasolines were quiet throughout the week. Prices were generally unchanged but fell off slightly on Saturday in sympathy with U. S. Motor. The 60-62, 437 e.p. gasoline opened the week at 7.25 cents flat and sold at 7 to 7.25 cents on Tuesday, but the price range narrowed to 7 to 7.125 cents on Wednesday and Thursday and the going price was 7 cents flat on Saturday.

The opening price on 60-61, 400 e.p. was 7.375 cents flat; it moved at 7.25 to 7.375 cents on Wednesday and was down to 7.125 to 7.25 cents at close of business Saturday. The 64-66, 375 e.p. product opened the week at 7.375 to 7.50 cents, went to 7.375 to 7.625 cents Tuesday at which level it remained until Saturday when it came back to 7.375 to 7.50 cents.

The kerosene market was rather quiet at the beginning of the week but gained more strength near the close. Reports on activity of this product varied.

Some said the demand was good while others said there was little movement. Sales of 41-43 w.w. were at 4.125 cents over most of the week with a few reported above and below this figure but on Saturday the price range had widened to 4 to 4.25 cents.

Gas oil and distillate were generally quiet. Of the two, 32-36 dark gas oil was in best demand. Fairly good industrial demand was reported for this grade. The price of 38-40 straw distillate was generally unchanged over the week. Sales were at 3.25 to 3.375 cents except on Tuesday when a flat price of 3.375 cents prevailed. The gas oils were unchanged during the week; 32-36 straw colored moved at 3 cents flat with some sales reported at 2.875 cents, while 32-36 dark gas oil was at 2.75 to 2.875 cents.

No great demand was noted during the week on fuel oil. Prices, however, were firm and showed little signs of decline. Industrial demand for fuel oil over August was good. Prices on all grades continued unchanged throughout the week. 28-30 fuel was 22-26 was $0.925 flat; 18-22 was $0.90 flat. Smackover quotations remained $1 to $1.05; 24-26 was $0.925 to $0.95;

BURLINGTON, Vt., July 26.—A 1 cent increase in gasoline tax was effective in Vermont on June 1. Total tax there is 3 cents. Gasoline prices were advanced to cover.

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Week's Price Changes
Tank Wagon Changes

Gasoline Changes

Standard of New York—Gasoline tax was increased 1 cent in Vermont, to 3 cents, **June 1.**

T.w. and s.s. prices of Socony gasoline reduced 2 cents, Syracuse, to 17 cents and 19 cents respectively, **July 28.**

T.w. and s.s. prices of Socony gasoline reduced 2 cents, Albany and Schenectady, to 17 cents and 19 cents respectively at both points, **July 28.**

T.w. and s.s. prices gasoline advanced 1 cent, Boston, Augusta and Manchester to 18 cents t.w., exclusive of taxes, **July 23.**

Atlantic Refining—T.w. and s.s. prices gasoline advanced 1 cent, metropolitan Philadelphia, to 15 cents t.w. without tax, and 21 cents s.s., including 3 cent tax, **July 28.**

Standard of Kentucky—T.w. price gasoline reduced 1 cent, s.s. price 3 cents, Augusta, to 18 cents and 19 cents respectively, including 4 cent tax, **July 25.**

Standard of Indiana—T.w. and s.s. prices gasoline advanced 2 cents, Illinois, covering state gasoline tax, **Aug. 1.**

Standard of California—T.w. and s.s. prices gasoline advanced 1 cent, California, covering state gasoline tax increase to 3 cents, **July 29.**

Kerosene Changes

Standard of Kentucky—Kerosene price reduced 1 cent, Jackson, Miss., to 13.5 cents t.w., **July 23.**

Price Cutting in New England

SPRINGFIELD, Mass., Aug. 1.—On July 27 Yankee Filling Stations, Inc., Sinclair distributor here, reduced gasoline prices at 30 of its service stations at Springfield to 15 cents, while tank wagon price remains 17 cents. This cut was to meet prices of the larger companies which are selling gasoline at 15 cents retail, the Yankee company claims, although posted prices are 17 cents both tank wagon and service station.

Price cutting in the New England states has been going on during the past week. One oil jobber at Augusta, Me., says that price concessions are being given by the larger oil companies to such an extent that the posted tank wagon price is "nothing but a farce."

Gulf Lub Market Quiet

HOUSTON, July 30.—Gulf Coastal lubricant market is quiet. Shipments are confined mainly to spot jobbing demand or movements on regular contracts. It is still too early for any considerable discussion of new contracts for winter requirements.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

(OIL PRICE HANDBOOK has t.w. and s.s. markets for whole year arranged for quick reference)

These Prices In Effect August 1, 1927

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	16	2	18	*	14
Newark, N. J.	16	2	18	20	14
Annapolis, Md.	16	4	20	23	12
Baltimore, Md.	16	4	20	23	10
Cumberland, Ind.	16	4	20	23	14
Washington, D. C.	16	2	18	21	12
Danville, Va.	16	4½	20.5	*	14
Norfolk, Va.	16	4½	20.5	23.5	12
Richmond	16	4½	20.5	23.5	14
Roanoke, Va.	16	4½	20.5	23.5	14
Petersburg, Va.	16	4½	20.5	23.5	14
Williamsburg, Va.	16	4½	20.5	*	14
Charleston, W. Va.	16	4	20	23	13
Clarksburg, W. Va.	16	4	20	23	14
Keyser, W. Va.	16	4	20	*	14
Parkersburg, W. Va.	13	4	17	20	14
Wheeling, W. Va.	16	4	20	23	14
Charlotte, N. C.	16	4	20	23	14
Hickory, N. C.	16	4	20	23	14
High Point, N. C.	16	4	20	*	14
Mt. Airy, N. C.	16	4	20	23	14
Salisbury, N. C.	16	4	20	23	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	19	0	19	23	15
Albany, N. Y.	17	0	17	19	15
Buffalo, N. Y.	15	0	15	18	14
†Rochester, N. Y.	13	0	13	16	13
Syracuse, N. Y.	17	0	17	19	15
Boston, Mass.	18	0	18	18	15
Augusta, Me.	18	3	21	23	15
Manchester, N. H.	18	2	20	22	15
Burlington, Vt.	17	3	20	22	15

*In steel barrels.

†It is reported that S. O. New York is selling a second grade of gasoline at Rochester, 4c below the above posted prices which apply on its Socony grade.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	*22	14
Philadelphia, Pa.	15	*	15	*21	14
Allentown, Pa.	16	*	16	*22	14
Erie, Pa.	12	*	12	*18	14
Scranton, Pa.	16	*	16	*22	14
Altoona, Pa.	16	*	16	*22	14
Dover, Del.	16	3	19	22	14
Wilmington, Del.	16	3	19	22	14
Providence, R. I.	17	2	19	19	15
Boston, Mass.	17	0	17	17	15
Springfield, Mass.	17	0	17	17	15
Worcester, Mass.	17	0	17	17	15
Hartford, Conn.	19	2	21	22	15
New Haven, Conn.	19	2	21	21	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	13	5	18	21	15.5
Louisville, Ky.	14	5	19	22	15
Covington, Ky.	14	5	19	22	15.5
Clarksdale, Miss.	13	4	17	20	12.5
Gulfport, Miss.	††14.5	4	††18.5	21.5	14
Jackson, Miss.	13	4	17	20	13.5
Natchez, Miss.	12.5	4	16.5	19.5	14
Vicksburg, Miss.	12.5	4	16.5	19.5	14
Birmingham, Ala.	14	4	18	21	15.5
Mobile, Ala.	13	4	17	20	15
Montgomery, Ala.	15	4	19	22	*16.5
Atlanta, Ga.	†14	3½	18	21	15
Augusta, Ga.	†14	3½	18	19	16
Macon, Ga.	†15	3½	19	22	16
Savannah, Ga.	†12	3½	16	18	14
Jacksonville, Fla.°	13	5	18	21	14
Miami, Fla.°	15	5	20	23	15.5
Tampa, Fla.°	12	5	17	20	14
Pensacola°	**14	5	**19	22	15

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

°Florida gasoline prices include ½c inspection fee.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Chicago, Ill.	14	2	16	18	12
Decatur, Ill.	14.2	2	16.2	18.2	12.1
E. St. Louis, Ill.	13.1	2	15.1	17.35	11.2
Joliet, Ill.	14.4	2	16.4	18.4	12.3
Peoria, Ill.	10	2	12	14	12.1
Quincy, Ill.	14.2	2	16.2	18.2	10.9
Indianapolis, Ind.	14.2	3	17.2	19.2	13.2
Evansville, Ind.	14	3	17	19	13
South Bend, Ind.	14.4	3	17.4	19.4	13.4
Detroit, Mich.	14.8	2	16.8	18.8	13.7
Grand Rapids, Mich.	14.7	2	16.7	18.7	13.6
Saginaw, Mich.	14.9	2	16.9	18.9	13.8
Green Bay, Wis.	14.6	2	16.6	18.6	12.4
Madison, Wis.	14.3	2	16.3	18.3	12.1
Milwaukee, Wis.	14.1	2	16.1	18.1	11.9
La Crosse, Wis.	15.2	2	17.2	19.2	13
Minneapolis, Minn.	12	2	14	16	12.9
Duluth, Minn.	13.5	2	15.5	17.5	12.9
Mankato, Minn.	15.1	2	17.1	19.1	12.7
Des Moines, Iowa	14	3	17	19	12.3
Davenport, Iowa	14.5	3	17.5	19.5	12.3
Sioux City, Iowa	14.1	3	17.1	19.1	11.9
Mason City, Ia.	14.5	3	17.5	19.5	12.3
St. Louis, Mo.	*13.6	2	15.6	17.9	11.3
Kansas City, Mo.	†12.9	2	14.9	16.9	10.6
St. Joseph, Mo.	†14.5	2	16.5	18.5	11.2
Fargo, N. D.	15	2	17	19	14.9
Grand Forks, N. D.	17.2	2	19.2	21.2	15.2
Minot, N. D.	16.9	2	18.9	20.9	14.9
Pierre, S. D.	15.5	4	19.5	21.5	13.9
Huron, S. D.	12.5	4	16.5	18.5	13.9
Wichita, Kans.	12.8	2	14.8	16.8	10.8
Bartlesville, Okla.	12.8	3	15.8	17.8	10.8

S. O. Indiana Q. D. A. schedule on tank wagon deliveries of gasoline, effective March 3 thru territory, except Wisconsin effective March 4: 50 gals. and over on delivery, 1c discount; 6,000 gals. and over per month, 1½c; 10,000 gals. and over per month, 2c; 15,000 gals. and over per month, 3c, except latter discount does not apply in Chicago.

Service station discounts: 200 gals. or more per month, and 2400 gals. or more per year, 2c per gal.

March 1, 1c discount on kerosene in 50 gal. drums or more thru territory.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	16.25	12.25
McCook	12.75	2	14.75	16.75	11.50
Norfolk	14.75	2	16.75	18.75	12.75
North Platte	15.75	2	17.75	19.75	13.50
Scottsbluff	15.25	2	17.25	19.25	13.00

CONTINENTAL OIL

Denver, Colo.	15	3	18	20	14.5
Pueblo, Colo.	15	3	18	20	14.5
Grand Junction, Colo.	18.5	3	21.5	23.5	18
Casper, Wyo.	15	3	18	20	13
Cheyenne, Wyo.	16	3	19	21	14.5
Butte, Mont.	19	3	22	22	19
Helena, Mont.	19.5	3	22.5	24.5	19
Salt Lake City, Utah	17.5	3½	21	23	17
Boise, Ida.	19.5	4	23.5	25.5	19
Twin Falls, Ida.	19.5	4	23.5	25.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	19	3	22	26	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

S. O. LOUISIANA

Little Rock, Ark.	13	5	18	21	12
Alexandria, La.	13	2	15	18	†14
Baton Rouge, La.	12	2	14	17	†12.5
Lake Charles, La.	13.5	2	15.5	18.5	†14
New Orleans, La.	*13.5	2	*15.5	*18.5	*14
Shreveport, La.	13.5	2	15.5	18.5	†13
Lafayette, La.	13	2	15	18	†13.5
Bristol, Tenn.	16	3	19	22	14
Chattanooga, Tenn.	16.5	3	19.5	22.5	15
Knoxville, Tenn.	16.5	3	19.5	22.5	15
Nashville, Tenn.	15	3	18	21	15
Memphis, Tenn.	12	3	15	18	14

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana include 1c state tax.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
All Ohio points	16	3	19	21	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	3	15	18	9
Oklahoma City	12	3	15	18	9
Tulsa, Okla.	12	3	15	18	9
Fort Smith, Ark.	9	5	14	17	12
Little Rock, Ark.	13	5	18	21	12
Texarkana, Ark.	†16	5	†*21	†*21	12
Dallas, Tex.	†15	3	†18	†18	11
Fort Worth, Tex.	†15	3	†18	†18	10
Houston, Tex.	††16	3	††19	††19	15
San Antonio, Tex.	†15	3	†18	†18	11
El Paso, Tex.	**16	3	**19	**19	16

*Within city of Texarkana the state tax on gasoline is 3c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 5c Arkansas tax applies.

†3c per gal. discount to dealers.

**2c per gal. discount to dealers at El Paso, Feb. 28.

††4c per gal. discount to dealers at Houston, March 16, 1927.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M. & P. Naphtha	Cleaner Naphtha
Chicago	16	18	18
Detroit	17.7	19.7	19.7
Kansas City	16.2	†18.2	†18.2
Milwaukee	16.7	*20.7	*20.7
Minneapolis	*20	*22	*22
St. Louis	15.9	17.9	17.9
New York	..	19	

*Includes 2c state tax.

†Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	19.5	3	22.5	26	21
Ottawa	19.5	3	22.5	26	21
Cochrane	24.5	3	27.5	36	26
Ft. William	24.5	3	27.5	31	23.5
MANITOBA					
Winnipeg	24.5	3	27.5	31	23
SASKATCHEWAN					
Regina	27.5	0	27.5	32	26.5
ALBERTA					
Edmonton	26.5	3	29.5	33	25.5
Calgary	24.5	3	27.5	31	23.5
BRITISH COLUMBIA					
Vancouver	20	3	23	27	21
QUEBEC					
Montreal	20.5	3	23.5	27	21
Quebec City	22.5	3	25.5	33	23
Three Rivers	22.5	3	25.5	33	23
NEW BRUNSWICK					
St. John	24.5	3	27.5	32	24
Moncton	24.5	3	27.5	32	24
NOVA SCOTIA					
Halifax	24.5	3	27.5	32	24
Sydney	26.5	3	29.5	34	26
PRINCE EDWARD ISLAND					
Charlottetown	24.5	3	27.5	31	24

Note: In districts surrounding these points 1c additional is added to city price.

Export Buyers Showing Interest; Most Demand From France

By Special Correspondent
NEW YORK, Aug. 1

EXPORT demand for the major petroleum products was better last week than it has been in several months. At least two bulk cargoes sales were closed early in the week while another was reported. Most of the foreign demand was from France.

Gasoline was a shade higher in the Gulf section and steady at New York. Kerosene was steady and Continental buying interest is reviving. European marketers are beginning to look around for their fall needs.

Gas oil was ¼-cent lower at New York. Diesel oil was reduced 10 cents at New York while bunker oil for bunkering purposes was 5 cents higher. Cargoes were five cents lower at the Gulf. Lubricating oils were in slightly better demand. Waxes were easier and buyers appear to be holding off for further reduction.

Export Gasoline—New York

Export buyers of gasoline have been manifesting a much keener interest in the gasoline market and there were numerous inquiries in the local market for part cargoes of gasoline last week. One of the leading Independents is working on an inquiry from France for 40,000 barrels of U. S. Motor, 64-66 gravity 375 e.p. gasoline and prime and water white kerosene for August shipment and it is expected that this will be closed shortly. U. S. Motor was held at 8.25 to 8.75 cents New York harbor refineries. Cased gasoline demand did not show the expected improvement. There had been a good inquiry from South America during the preceding week but this failed to materialize. Business in cased goods was chiefly in lots of from 1,000 to 3,000 cases although it was rumored that a leading refiner had sold 25,000 cases of U. S. Motor and 64-66 gravity 375 e.p. gasoline for August-September shipment to the Levant.

Export Gasoline—Gulf Ports

Motor gasoline was in better export demand last week and at the close of the week the price was 7.5 cents a gallon against 7 cents the previous week. Several bulk cargo sales were closed. One of the leading refiners booked an order from France for 35,000 barrels of 64-66 gravity 375 e.p. gasoline; 14,000 barrels of 41-43 prime white and 14,000 barrels of 44 water white kerosene for August shipment to France. A leading independent refiner sold a cargo of 25,000 barrels of 64-66 gravity 375 e.p. gasoline, 14,000 barrels of 41-43 prime white kerosene, 14,000 barrels of 44 water white kerosene and 7,000 barrels of translucent gas oil for August shipment to France. It is understood that the first cargo was sold at 8.5 cents for the 64-66 gravity 375 e.p. gasoline and 5 and 6 cents for the kerosene. There was an inquiry from France for two bulk cargoes of gasoline and kerosene one of which is for shipment to Spain, during August.

At the close of the week U. S. Motor was held at 7.5 cents; 60-62 gravity 400 e.p. at 7.75 cents; 61-63 gravity 390 e.p. at 8 cents and 64-66 gravity 375 e.p. at 8.5 cents a gallon.

Cased gasoline was quiet. The only sale of consequence reported included 30,000 cases of U. S. Motor and 64-66 gravity 375 e.p. for August shipment to Australasia. U. S. Motor was held at $1.70 a case and 64-66 gravity 375 e.p. at from $1.85 to $1.90 a case in cargo lots.

Waxes—New York

White crude scale wax prices were a trifle easier last week although no reductions of consequence were announced. Fully refined waxes were lower. The demand for both white crude scale and fully refined was below expectations and export buyers were keeping purchases down although inquiring more actively than during the preceding week. European buyers apparently have little confidence in the United States markets at present and are holding off pending developments. Stocks abroad are large and consumption is about normal for this time of the year. Fully refined grades were quoted on a basis of 3.875 cents a pound for 123-125 A.M.P., a reduction of ⅛-cent for the week.

Waxes—Gulf Ports

The movement into export channels was again disappointing last week although French and English buyers were inquiring for larger quantities. Stocks of wax on hand are heavy and Europeans apparently feel that by holding off for a while they will be able to secure lower prices soon. Domestic buying was disappointing, being "hand-to-mouth."

At the close of the week white crude scale 124-126 a.m.p. was 2.55 cents; 124-126 semi refined a.m.p. 2.625 cents and 124-126 yellow crude scale 2.5 cents. Fully refined grades were quoted as follows: 123-125 and 125-127 A.M.P. 3.70 cents; 128-130 a.m.p. 3.80 cents; 133-135 a.m.p. 5 cents and 135-137 a.m.p. 5.375 cents.

Export Kerosene—New York

Export demand was more spirited last week, although mainly confined to small lots. There were several bulk inquiries in the market but most of this business is being taken care of at the Gulf. Water white kerosene was a shade firmer—43-45 gravity was generally quoted at 6.75 cents a gallon at the refinery while prime white 41-43 gravity held steady at 6.5 cents a gallon.

There have been several inquiries for forward deliveries, and Continentals are apparently beginning to anticipate their fall requirements. Cased kerosene held steady but no large movements were disclosed. A South American buyer, however, purchased 10,000 cases of prime and water white for August shipment from a leading independent refiner. There is a fairly good consignment movement of kerosene going on but actual demand from abroad is still small.

Export Kerosene—Gulf Ports

There was a slightly firmer tendency noted at the close of last week, which was attributed to the improved export inquiry. As noted above, at least one bulk cargo of gasoline and kerosene was closed by a leading refiner at slight advances over the last previous sale, and the majority of refiners are now more confident of the outlook. European marketers apparently feel that there is slight chance of the market going much lower and are taking advantage of the present prices.

Prime white 41-43 gravity was quoted at 5 cents a gallon, while 44 water white was held at 6 cents. There was an inquiry, rumored to be from Scandinavia, for 25,000 barrels of kerosene, but details were withheld. Cased kerosene was in better demand. A leading independent refiner sold 20,000 cases of prime and water white for August shipment, presumably, to China at $1.45 and $1.55 a case, respectively.

Bunker Oil—New York

Grade C bunker oil was moving a little more freely last week. Export buying lagged and most of the activity was against standing contracts. At local refineries $1.65 a barrel was the prevailing price, while the f.a.s. quotation was $1.715 a barrel. Diesel oil was holding up fairly well at $2.20 a barrel refinery, but demand in

Complete Export Markets

(Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for years 1924-1925-1926)

New York Export Market

GASOLINE	Aug. 1	July 25
U. S. Motor f. o. b. New York Harbor	8.25 – 8.50	8.25 – 8.50
U. S. Motor cases	24.40	24.40
KEROSENE		
43-45 150 W. W. Bulk Ref.	6.75	6.75
41-43 Prime White Bulk Ref.	6.50	6.50
43-45 150 W. W. Cases	17.15	17.15
42-44 110 S. W. Cases	16.15	16.15
GAS OIL		
36-40 Bulk Refinery	5.25	5.50
28-34 Bulk Refinery	5.00	5.25
MEXICAN BUNKER OIL		
Grade C. f. o. b. ref. Bulk	$1.65	$1.65
Diesel Oil f. o. b. ref. Bulk	$2.10	$2.20

LUBRICATING OILS

The following are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (per Gallon in Barrels)		
1 inch Immersion Test; All Penna. Products		
Bright Stock dark	41.00	41.00
Filtered D 600	35.00	35.00
Filtered E 600-Warren	26.00	27.00
Unfiltered 600 s. r.	16.50	16.50
Unfiltered 650 s. r.	21.00	21.00
600 Flash s. r.	23.00	23.00
630 Flash	33.50	35.00
RED ENGINE OILS (Per Gallon in Barrels) (Viscosity at 100°)		
300 Vis. No. 6½ color	22.00	22.00
250 Vis. No. 6 color	20.50	20.50
200 Vis. No. 6 color	20.00	20.00
PALE ENGINE OILS (Per Gallon in Barrels) (Viscosity at 100°)		
230 Vis. No. 3¼ color	26.00	26.00
180 Vis. No. 3¼ color	21.50	21.50
100 Vis. No. 2¼ color	16.75	16.75
MOTOR OILS (Per Gallon in Barrels) (Viscosity at 100°)		
600 No. 7 color	36.00	36.00
500 No. 7½ color	34.00	34.00
400 No. 7½ color	32.00	32.00
300 No. 6 color	30.00	30.00
200 No. 3¼ color	21.00	21.00

MEDICINAL OILS (Includes Price of Drums) (Penna Stocks)	Aug. 1	July 25
Domestic 875-.885 s. g.	.80	.80
Domestic 865-.870 s. g.	.70	.70
Russian 885-.890 s. g. 325-330 vis.	.80	.75-.85
870—875 s. g. vis.	.67-.77	.67-.77
860—865 s. g. vis.	.65-.75	.65-.75
WAXES (Penna Stocks) (In Cents per Pound, F. A. S. Carload Lots)		
WHITE CRUDE SCALE (Shipped in Bbls.)		
122-124 A. m. p.	2 875	2.75
124-126 A. m. p.	2.875	2.80
FULLY REFINED (Shipped in Burlap Bags)		
123-125 A. m. p. Philadelphia	3.875	3.875
125-127 A. m. p.	3.875	3.875
128-130 A. m. p.	4.00	4.00
130-132 A. m. p.	4.25	4.375
133-135 A. m. p.	5.50	5.375
135-137 A. m. p.	6.00	6.00
YELLOW CRUDE SCALE		
124-126 A. m. p.	2.625	2.625
PETROLATUMS (Penna Stocks) Per Pound		
Dark Green	1.875	1.875
Veterinary	3.00	3.00
Light Amber	3.625	3.625
Dark Amber	3.250	3.250
Cream	5.75	5.75
Lily White	7.25	7.25
Snow White	8.125	8.125

Gulf Export Market

GASOLINE F. O. B. Gulf Oil Terminals, Texas and Louisiana (Shipments of 20,000 Bbls. and over)	Aug. 1	July 25
U. S. Motor Bulk	7.50	7 00
60-62 400 e. p. Bulk	7 75	7 25
61-63 390 e. p. Bulk	8 00	7 50
64-66 375 e. p. Bulk	8.50	8 25 -8.50
U. S. Motor, Cases (cargo lots)	1.70	$1.65 -1 70
64-66 Cases (cargo lots)	$1 85– 1.90	$1.85 -1.90
KEROSENE		
Water White, 43-45 Bulk	6.00	6.00
Prime White, 41-43 Bulk	5 00	5.00
Water White, cases (cargo lots)	$1.55	$1.55
Prime White, cases (cargo lots)	$1.45	$1.45
DOMESTIC GAS AND BUNKER OIL		
26-28. gravity, Bulk*	3.875	3.875
32 plus, bulk, Dark	3.750	3.750
Grade C, Bunker oil	$1 45	$1.40
Cargoes	$1.25	$1.30

*Translucent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS, F. O. B. Steamer Tampico		
Heavy, Panuco crude Taxes to be added	$1 12	$1.12
Grade C, Bunker oil, F. O. B. Tampico, For Bunkering Purposes, taxes paid	$1.50	$1.50

SOUTH TEXAS (Viscosity at 100° F; cold test 0) (Tanker, F. O. B. Houston) LUBRICATING OILS	Aug. 1	July 25
100 Vis. No. 2 Unfiltered Pale	6.00	6 00
150 Vis. No. 2½ Unfiltered Pale	8.50	8.50
200 Vis. No. 3 Unfiltered Pale	9.00	9.00
300 Vis. No. 3 Unfiltered Pale	9.50	9.50
500 Vis. No. 3½ Unfiltered Pale	11 00	11.50
200 Vis. No. 5½ Red Oil	7 00	7 50
300 Vis. No. 5½ Red Oil	8 00	8.50
500 Vis. No. 6 Red Oil	10.00	10.00

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in Cargo lots)

	Aug. 1	July 25
Gasoline, U. S. Motor—53°-55°	6.00 – 7.00	6.00 – 7.00
Gasoline, U. S. Motor—blends and special cuts	$7.00 – 8.00	7 00 – 8.00
Gas Oil, 30°-34° in bbls.	$ .95 – 1 05	$ .95 – 1 05
Diesel Oil, 27°—plus in bbls.	$ .95 – 1 05	$ 95 – 1 05
Bunker Oil, 14°-18° in bbls.	$ .85 – 1.00	$ 85 – 1 00
Fuel Oil, 14°-18° in bbls.	$ .70 – .75	$ .70 – .75
Kerosene, W. W. 38°-40°, 125-150 flash (Gals.)	$4.50 – $5.50	4.50 – 5.50
Cased Goods		
Gasoline, U. S. Motor	$1 75 – $1 80	$1.75 – 1 80
Kerosene, W. W. 38°-40°, 125-150 flash	$1.40 – $1.50	$1.40 – 1.50

N. Y. Domestic Market

The following light oil, gas and fuel prices are F. O. B. New York refineries being products made from Domestic (including California) and Mexican Crudes

GASOLINE	Aug. 1	July 25
U. S. Motor tank cars, f.o.b. N. Y. refinery	8.25 – 8.75	8.25 – 8.75
U. S. Motor, tank cars, delivered Greater N. Y.	9.25 – 9.75	9.25 – 9.75
Philadelphia, U. S. Motor, tank cars f. o. b. Philadelphia refinery	8.25 – 8.50	8.25 – 8.50
Philadelphia U. S. Motor, tank cars delivered nearby trade	9.25 – 9.50	9.25 – 9.50
KEROSENE		
43-45 150 W. W. Tank Cars delivered greater N. Y.	7.75	7.75
41-43, Bulk Ref. Prime	6.50	6.50
FUEL OILS		
Grade C Bunker f. o. b. N. Y. R	$1.65	$1.65
Diesel Oil f. o. b. Refinery	$2.10	$2.20
Gas Oil, 36-40, Bulk Refinery	5.25	5.50
Gas Oil, 28-34, Bulk Refinery	5 00	5.25
Furnace Oil, 38-42, Bulk Refinery	6.00	6.50
Furnace Oil from Tank Wagons	10.00	10.00

this instance was mainly for domestic account. Furnace oil was quoted at 6.5 cents a gallon at the refineries in bulk. Heavy crude oil production had led many observers to believe that there would be a cut in fuel oil prices. Refiners maintain that supply in this locality balances demand.

Bunker Oil—Gulf Ports

The Gulf bunker oil market was rather unsettled last week, and although Grade C for bunkering purposes, f.o.b. New Orleans, was advanced 5 cents a barrel to $1.45, the cargo price was reduced 5 cents to $1.25 a barrel. Competition for bulk business was keener. At Tampico there were no cargoes offered, while the bunkering price was still $1.50 a barrel, including the taxes. Heavy Panuco crude oil was still quoted at $1.12 a barrel. No bulk sales were reported.

Gas Oil—New York

While domestic demand was slightly more active last week, foreign buyers showed little interest in the market, and apparently are still able to pick up cheap oil on the other side. At the New York Harbor refineries, 36-40 gravity was easy at 5.25 cents a gallon, while 28-34 gravity was quoted at 5 cents a gallon. Stocks here are large.

Gas Oil—Gulf Ports

Regardless of the inactivity along the Atlantic Seaboard, export buyers showed more interest in gas oil at

(*Continued on Page* 143)

Crude Oil Prices, as Posted by Major

(Crude prices for years 1924-1925-1926 in

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$2.65
Bradford District Oil in National Transit Lines (Bradford District)	2.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	2.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	2.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	2.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	2.35
Keister Grade in National Transit Lines (Butler Co.)	1.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.40
Corning Grade in Buckeye Pipe Lines (Ohio)	1.45
Corning, O. heavy grade	1.35
*Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.50
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

*Somerset oil run prior to Oct. 1922, 1, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines $1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 14, 1927

Wooster	$1.77	Plymouth	$1.33
Lima	1.71	West. Kentucky	1.33
Waterloo	1.35	*Canadian Petro.	2.11
Indiana	1.48	*Oil Springs	2.18
Princeton	1.60	*Posted by Imperial Oil Ltd.	
Illinois	1.60		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective March 12, 1927

28-28.9	$1.12	35-35.9	$1.26
29-29.9	1.14	36-36.9	1.28
30-30.9	1.16	37-37.9	1.30
31-31.9	1.18	38-38.9	1.32
32-32.9	1.20	39-39.9	1.34
33-33.9	1.22	40-40.9	1.36
34-34.9	1.24	41-41.9	1.38
42-42.9	$1.40	48-48.9	$1.52
43-43.9	1.42	49-49.9	1.54
44-44.9	1.44	50-50.9	1.56
45-45.9	1.46	51-51.9	1.58
46-46.9	1.48	52 and above	1.60
47-47.9	1.50		

Above schedule met on March 12, by Gulf, Mid-Continent Pet. Corp., and Empire; by Carter, Humble and the Texas Co. on March 14.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

March 14, same schedule as Prairie in above fields except that Humble is paying 2c less for each degree of gravity on oil below 28°.

Mirando, Tex. $1.00

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

Effective May 5

Below 33	$1.05	43-43.9	$1.27
33-33.9	1.07	44-44.9	1.29
34-34.9	1.09	45-45.9	1.31
35-35.9	1.11	46-46.9	1.33
36-36.9	1.13	47-47.9	1.35
37-37.9	1.15	48-48.9	1.37
38-38.9	1.17	49-49.9	1.39
39-39.9	1.19	50-50.9	1.41
40-40.9	1.21	51-51.9	1.43
41-41.9	1.23	52 and above	1.45
42-42.9	1.25		

Corsicana heavy $1.00

Carter Oil Co.

(Oklahoma and Kansas)

March 14, same schedule as Prairie.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective March 14

Hutchinson, and Carson Counties $0.95

Gray and Wheeler Counties:

28-28.9	$ .80	37-37.9	$ .98
29-29.9	.82	38-38.9	1.00
30-30.9	.84	39-39.9	1.02
31-31.9	.86	40-40.9	1.04
32-32.9	.88	41-41.9	1.06
33-33.9	.90	42-42.9	1.08
34-34.9	.92	43-43.9	1.10
35-35.9	.94	44 and above	1.12
36-36.9	.96		

WEST TEXAS

(Crane, Upton and Crockett Counties)

Humble Oil & Refining Co.

Effective March 14

Below 26	$ .70	31-31.9	$ .82
26-26.9	.72	32-32.9	.84
27-27.9	.74	33-33.9	.86
28-28.9	.76	34-34.9	.88
29-29.9	.78	35-35.9	.90
30-30.9	.80	36 and above	.92

NORTH LOUISIANA — ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto

Effective March 14, 1927

Below 28	$1.10	40-40.9	$1.36
28-28.9	1.12	41-41.9	1.38
29-29.9	1.14	42-42.9	1.40
30-30.9	1.16	43-43.9	1.42
31-31.9	1.18	44-44.9	1.44
32-32.9	1.20	45-45.9	1.46
33-33.9	1.22	46-46.9	1.48
34-34.9	1.24	47-47.9	1.50
35-35.9	1.26	48-48.9	1.52
36-36.9	1.28	49-49.9	1.54
37-37.9	1.30	50-50.9	1.56
38-38.9	1.32	51-51.9	1.58
39-39.9	1.34	52 and above	1.60

Smackover, below 24	*$1.00
do 24 and above	* 1.25
Bellevue	1.25
Cotton Valley	1.00
**Urania, La.	1.00
†East El Dorado	1.00

**Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

*Met on July 6 by Louisiana Oil, Atlantic Oil Producing, and Shreveport — El Dorado Pipe Line Co.

STEPHENS, ARKANSAS

Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.00	30-30.9	$1.06
28-28.9	1.02	31-31.9	1.08
29-29.9	1.04	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective March 14

Grades A	$1.20	29-29.9	$1.25
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

California Market Fails to Show Much Improvement

LOS ANGELES, July 30

THE California market for petroleum products the past week was not especially encouraging although there were no breaks of real consequence. Consumption during July of gasoline was a little disappointing, as figures compiled show the indicated Pacific coast trade territory gasoline consumption was 104,495 barrels a day, against 105,770 barrels for the previous month.

Shipments of gasoline to points outside trade territory in June totaled only 1,713,971 barrels, against 2,508,433 barrels the previous month. Production of gasoline at California refineries during June was 4,731,789 barrels, against 4,864,233 barrels in May and 4,934,202 barrels in April. Stocks of gasoline the past month were reduced 117,053 barrels, according to Bureau of Mines figures.

Plenty of fuel for export can be bought at 70 to 75 cents a barrel.

The tank car fuel oil market is fairly firm at 65 to 70 cents a barrel for shipments within trade territory. This tank car business is largely in the hands of the small refiners, who have no deep water facilities, and could not load tankers if they made any sales.

On Friday the tank wagon and service station prices of gasoline advanced 1 cent in California, due to the increase of 1 cent in the tax, making the total state gasoline tax three cents. But this increase had no effect on the tank car or export price. Neither did it affect prices in other states in this trade territory.

The small refiners in southern California have been selling their gasoline to cut price Independent service stations at a price permitting its sale at 2 cents under the prevailing price. These refiners also increased their price one cent to take care of the tax increase.

Gasoline for export is still being quoted at 6 to 7 cents, but it is understood that two or three cargoes recently have been sold at a fraction under 6 cents, to meet competition on the east coast. Tank car gasoline has a range from 7.5 cents up, with favorite quotations of 8 to 9 cents, according to how bad the refiner wants to sell. These prices apply to out-of-state shipments. The major companies for tank car shipments within the state ask five cents under the service station price, tax paid.

There is no change in the kerosene and natural gasoline situation, with prices holding to previous quotations.

The tanker charter rate is slightly weaker, insofar as clean bottoms are concerned. The lowest rate yet quoted for movement from California to east coast on gasoline was 72 cents, with

(*Continued on Page* 143)

Purchasers, in All Fields (in Effect August 1, 1927)

OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

(Effective March 14)

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

(Salt Creek prices effective March 12)

‡Salt Creek	29-29.9	$1.14
" "	30-30.9	1.16
" "	31-31.9	1.18
" "	32-32.9	1.20
" "	33-33.9	1.22
" "	34-34.9	1.24
" "	35-35.9	1.26
" "	36-36.9	1.28
" "	37 and above	1.30
Elk Basin		1.33
Grass Creek light		1.33
Big Muddy		$1.25
Lance Creek		1.33
Rock Creek		1.25
Mule Creek		1.30
Rex Lake		1.10
‡Osage		1.33
‡Cat Creek, Mont.		1.33
Sunburst, Mont.		1.35
‡Hogback, N. Mex.		1.38
Artesia, N. Mex.		1.00

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Signal Hill Seal Beach Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway, Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	....	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
16-16.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
17-17.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
18-18.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
19-19.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
20-20.9	.85	.85	.85	....	.85	....	.85	.85	....	.77	.77	.76	.78	.85	.85
21-21.9	.86	.86	.85	....	.86	....	.85	.86	....	.79	.79	.77	.81	.85	.85
22-22.9	.87	.87	.85	....	.87	....	.85	.87	....	.81	.81	.78	.85	.85	.85
23-23.9	.88	.88	....	....	.88	....	.85	.88	....	.83	.83	.79	.89	.85	.85
24-24.9	.89	.89	....	....	.89	$ .89	.85	.89	.85	$ .85	.85	.80	.93	.85	.85
25-25.9	.90	.90	....	....	.90	.90	.86	.90	.85	.87	.87	.81	.97	.86	.86
26-26.9	.92	.92	....	....	.92	.92	.87	.91	.85	.89	.89	.83	1.01	.87	.87
27-27.9	.94	.94	....	....	.94	.94	.88	.92	.85	.91	.91	.85	1.05	.88	.88
28-28.9	.96	.96	....	....	.96	.96	.89	.93	.86	.93	.93	.87	....	.89	.89
29-29.9	.98	....	....	....	.98	.98	.90	.94	.87	.96	.96	.89	....	.91	.91
30-30.9	1.00	....	....	....	1.00	1.00	.91	.95	.88	.99	.99	.91	....	.93	.93
31-31.9	1.03	....	....	....	....	1.03	....	....	.89	1.02	1.02	.93	....	....	.95
32-32.9	1.06	....	....	....	....	1.06	....	....	.91	1.05	1.05	.95	....	....	.97
33-33.9	....	....	....	....	....	1.09	....	....	.93	1.08	1.08	.97	....	....	.99
34-34.9	....	....	....	....	....	1.12	....	....	.95	....	1.11	.99	....	....	1.01
35-35.9	....	....	....	....	....	1.15	....	....	.97	....	....	1.01	....	....	1.03
36-36.9	....	....	....	....	....	1.18	....	....	.99	....	....	....	....	....	1.06
37-37.9	....	....	....	....	....	1.21	....	....	1.01	....	....	....	....	....	1.09
38-38.9	....	....	....	....	....	1.24	....	....	1.03	....	....	....	....	....	1.12
39-39.9	....	....	....	....	....	1.27	....	....	1.06	....	....	....	....	....	1.15
40-40.9	....	....	....	....	....	1.30	....	....	1.09	....	....	....	....	....	....
41-41.9	....	....	....	....	....	1.33	....	....	1.12	....	....	....	....	....	....
42-42.9	....	....	....	....	....	1.36	....	....	1.15	....	....	....	....	....	....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Aug. 1	July 25
Soda Ash light 58% bags, cwt.	$1.325	–$1.325
Silicate of Soda 60 deg. drums, cwt.	$1.65	$1.65
Sal Soda wks.	$0.90–$1.10	$0.90–1.10
Caustic Soda 76% solid cwt.	$3.00	3.00
Chloride of Lime, cwt. works	$2.00	2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point, per ton	$10.50-11.00	10.50–11.00
Liquid Chlorine tank cars works, lb.	4	4

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot, lb.	10.4	10 6
August	10.4	10 6
Tanks spot	9.6	9.8
*Soya Bean Tanks, Coast, lb.	9.00	9 25
Castor Oil—		
No. 1 Carlots, Bbls.	13.00	13.00
No. 3 Carlots, Bbls.	12.50	12.50
Animal Oils—		
English Degras	5.25	5.25
Domestic Degras, bbls., carloads, lb.	4.50	4.50
Oleic Acid—		
Dist. Bbls, lb.	9.50	9.25
Saponified Bbls, lb.	9.75	9.50
Lard Oils—		
Prime		
Winter Strained 2 to 1⅓ ffa. 40-45c.t.lb.	15.75	16.00
Extra		
Winter Strained 2 to 4½ ffa. 40-45c.t.lb.	12.375	12.375
Extra, 4 to 5 ffa. 40-45c.t.lb.	11.50	11.75
Extra No. 1, 7 to 10 ffa. 40-59c.t.lb.	11.25	11.25
No. 1, 15 to 18 ffa. 40-45c.t.lb.	10.375	10.375
No. 2, 22 to 23 ffa. 40-45c.t.lb.	10.125	10.125
Prime Edible Tallow under 1⅓ ffa. 40-45c.t.N.Y., lb.	8.25	8.25
Tallow acidless, lb.	10.50	10.75
Lard Stearine, lb.	15.00	15.00
Oleo Stearine, lb.	10.25	10.00
Neatsfoot Oil—		
Pure, bbls.-lb.	14.75	14.75
Extra, bbls.-lb.	11.25	12.25
No. 1, bbls.-lb.	10.375	10.375
Cold pressed, lb.	18.00	18.00
Fish Oils—		
Menhaden Oil		
Light pressed, gal.	60	60
White, gal.	66	66
Yellow bleached, gal.	64	64
Whale, extra winter bleached, gal.	82	82
Naval Stores—		
Turpentine, N. Y., gal.	60	62.50
Turpentine†, gal.	54	56.50
Rosin, B. N. Y., bbl.	$10 35	$10.10
Rosin, F. N. Y., bbl.	$10.35	$10.10
Rosin, B†, bbl.	$ 8.75	$ 8.50
Rosin, F†, bbl.	$ 8.75	$ 8.50
Rosin Oil 1st run, gal.	57	57
Rosin Oil 2nd run, gal.	62	62
Pine Tar—		
Kiln Burnt, bbl.	$15.00	$15.00
Retort, bbl.	$16.00	$16.00

†Savannah, Ga., market.
*Nominal.

Alcohol—Denatured—		
Formula 5		
Bbls, gal.	51	51
Drums, gal.	44	44

OIL STOCKS AND FINANCES

National Petroleum News

Pure Refunds Debt at Lower Interest Rate

CLEVELAND, July 30.—Pure Oil Co. this week marketed $20,000,000 10-year 5½ per cent sinking fund gold notes at 98 and accrued interest to yield more than 5.75 per cent. The purpose of the issue, according to President H. M. Dawes in a letter to bankers, is to retire its 10-year 6½ per cent notes, to fund its floating debt, and to increase its working capital. The company also announced intention to issue $5,000,000 of 6 per cent cumulative preferred stock.

On March 31, Pure had outstanding $9,821,500 of notes. Its current debts amounted to $13,658,700 and current assets to $28,570,788. After giving effect to this financing the balance sheet of March 31 would show current assets of more than $34,000,000 and current liabilities of $5,833,000.

Pure had outstanding March 31, $23,000,000 of preferred stock which had three dividend rates, 8, 6 and 5½ per cent. The notes which were issued at June 1, 1923, are callable at 103 and interest on any interest date until Dec. 1, 1928.

Earnings of Pure, Mr. Dawes wrote, in the four years ended March 31, 1927, available for interest after depreciation and depletion, amounted to $12,301,750 or 11 times the interest requirements on the total funded debt.

Guaranty Co. of New York headed the underwriting syndicate which included Dillon, Read & Co.; Central Trust Co. of Illinois; Illinois Merchants Trust Co.; Continental & Commercial Co., and Halsey, Stuart & Co., Inc.

New York Bonds

Week Ending July 29

	High	Low	Last	Ch'ge
American Rep. deb. 6s...	100	99½	99½	0
Assoc. Oil Gold 6s.....	103	103	103	+ ⅛
Atlantic Refg. deb. 5s...	101¼	100⅛	100⅞	— ⅜
Barnsdall Corp. 5s.....	98½	97⅝	98½	0
Barnsdall Corp. 6s ex. war	90½	90	90	0
Cal. Petrol 5s.....	94	93	94	+ ½
Cal. Petrol. 5½s.....	98¾	97⅛	98¾	+2
Empire Gas & Fuel 7½s	110⅝	110⅛	110½	—1
Empire Gas & Fuel 6½s	105⅞	105⅝	105⅝	— ⅛
Gen. Asphalt 6s.....	106¾	106¼	106¼	— ½
Gen. Petroleum 5s.....	101¼	101	101	+ ⅜
Humble Oil & Refg. 5½s	102½	102⅛	102½	+ ½
Humble Oil 5s wi.....	98½	98	98⅜	+ ⅜
Mid-Cont. Pet. 6½s....	104¾	104¼	104⅜	— ⅛
Pan.Amer. P & T 7s....	105¾	105½	105½	— ½
Pan-Amer. P & T 6s....	103	102¾	103	0
Pan-Amer. P & T 6s....	93½	92½	92½	— ½
Prod. & Refnrs. 8s ex war.	111½	110½	111½	+1
Simms Pet. cvt. 6s.....	98	97⅞	97⅞	0
Sinclair Con Oil Col. 7s..	99¾	99½	99½	— ¼
Sinclair Con Oil Con 6½s	95⅞	95	90⅞	+ ¼
Sinclair Con Oil 6s.....	100	99¾	99¾	— ⅛
Sinclair Crude Oil 6s....	100⅜	100⅛	100¼	+ ⅛
Sinclair Pipe Line sf 5s..	93	92½	92½	— ½
Standard Oil N. Y. 4½s.	94⅞	94¼	94⅞	+ ¼
Standard Oil N. J. deb. 5s	102½	101⅞	102	+ ⅛
Union Oil of Calif 6s-A..	107¼	107¼	107¼	0
Union Oil of Calif 1st 5s.	....	....	....	....
Union Oil of Calif 5s-C..	97⅜	97⅛	97⅛	— ¼

The Question Box

WHAT are the relative sizes of the great oil companies? What are their relationships with one another? Who controls this, or that, company?

These are sample questions frequently addressed to NATIONAL PETROLEUM NEWS. The following is an excerpt from an answer to a reader the nature of whose questions are obvious from the replies:

"The relative sizes of the three companies you inquire about are: First, Standard Oil Co. of New Jersey; second, Royal Dutch-Shell group, and third, Standard Oil Co. of Indiana, which includes Pan American Petroleum & Transport Co., financial control of which Standard bought about two months ago.

"The Pan American Petroleum Co., which retails in the southern states and has refineries at Tampico, and Destrehan, La., is a subsidiary of the Pan American Petroleum & Transport Co. which the Standard of Indiana controls.

"The controlling stock in the Pan American Petroleum & Transport Co., was owned by Doheny family until two years ago when control in the Pan American properties in all parts of the world except California were sold to a syndicate of which Standard of Indiana was a member. Two to a syndicate of which Standard bought out two other members of the syndicate and thereby obtained financial control of the Pan American. Doheny reorganized the California properties into the Pan American Western Petroleum Co., in which he is the largest stockholder.

"The Standard of Indiana owns half of the stock of the Sinclair Pipe Line Co. and the Sinclair Crude Oil Purchasing Co. The other half is owned by the Sinclair Consolidated Oil Corp. which owns the Sinclair Refining Co.

"The Standard of New Jersey owns the largest tankship fleet."

Oil Dividends

	Amount	Payable	Stock of Record
Pure Oil q.	87½c	Sept. 1	Aug. 10
do extra	12½c	Sept. 1	Aug. 10
Swan Finch pfd. q.	1¾%	Sept. 1	Aug. 10

Station Men Urged to Keep Oil Tanks Dry

DAYTON, O., Aug. 1.—Trouble thoughtlessness in cleaning up a service station is related in a few paragraphs in Flash and Fire, the house organ of the Refiners Oil Co., Dayton, under the caption "Keep Oil Tanks Dry." The article follows:

"Attention was recently called to presence of water on the top of lubricating oil tanks at one of the company's service stations.

"Investigation developed that the salesman in charge had been in the habit of turning the hose on the tanks while washing down the driveways. He did not realize the inadvisability of water getting into these containers.

"This is bad practice. If it is going on at other stations, now is the time to stop. Lubricating tanks should be cleaned by wiping them down regularly with a rag. Keep water away from them."

Crude Price Changes

OIL CITY—On Aug. 1 Joseph Seep Purchasing Agency reduced all Pennsylvania grade crude 25 cents per barrel, except Keister grade which is unchanged. This is the fourth cut in Pennsylvania crude prices this year, the three previous ones having been: 25 cent cut, Apr. 13; 10 cent cut, March 7; 15 cent cut, Feb. 23. This is the first change in prices since Apr. 13.

New prices are: Bradford-Allegheny district, $2.65; other Pennsylvania, $2.55; West Virginia (Eureka lines), $2.50; and Macksburg, O. district (Buckeye lines), $2.35.

NEW YORK, Aug. 1.—Production of motor benzol has fallen off a little since last week and, regardless of the weakened condition of the bulk gasoline market, prices were a trifle steadier. Leading marketers were still asking 21 cents a gallon for motor benzol in tankcars at the ovens for nearby shipment. There was a heavy contract movement throughout the week.

The recent drop in steel production resulted in a slump in the coke and benzol output. Manufacturers of motor fuel mixtures in this vicinity report a more spirited demand and are anxious to cover their forward requirements. The export inquiry was better last week but no sales were reported. Pure and 90 per cent benzol were dull and unchanged.

Transactions In Oil Shares on New York Stock Exchange

1926 High	1926 Low	1927 High	1927 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended July 30 Sales	First	High	Low	Last	Change
32¾	24¼	37⅝	27⅝	(sh) 915,675	N.P.	Amerada Corp.	50cQ	July 30, 27	5,500	29½	29⅞	28½	29¾	+ ¼
74	39¼	64⅞	35⅛	(sh) 209,180	N.P.	American Republics	.....	.....	500	54½	54⅛	48½	51	— 7
59⅛	44¾	50⅛	42	$ 56,000,000	$25	Associated Oil	‡50cQ	June 25, 27	100	44	44	44	44	+ 2
128¾	97	125⅝	107	50,000,000	100	Atlantic Refining	$1Q	June 15, 27	5,300	119	121⅜	115⅝	121	+ 1½
120	115⅛	118	115½	20,000,000	100	do pfd.	$1⅛Q	Aug. 1, 27	300	116	116	116	116	+ 1⅛
33½	23½	35½	22⅝	25,000,000	25	Barnsdall Corp. A	62½cQ	July 15, 27	32,300	23⅜	24½	†22⅝	24½	+ 1¾
29½	22½	32½	22	3,840,275	25	do B	62½cQ	July 15, 27	200	22½	23	22⅜	23	+ ⅜
68¼	29¾	32⅞	21½	49,505,175	25	California Petroleum	50cQ	June 1, 27	9,500	25	25	23⅞	24¼	— ¼
94¼	50	96¾	68½	24,242,500	100	General Asphalt	.....	.....	7,900	74⅞	74⅞	72	73⅞	— 1⅛
140¾	94⅞	144½	108½	6,949,200	100	do pfd.	$1¼Q	June 1, 27	500	112	113	112	113	— 1
72	50¼	174½	60½	25,000,000	100	Houston Oil. *	.....	.....	58,300	153	155⅞	147¼	152¾	+ 2
84	19⅝	32¾	17⅝	(sh) 500,000	N.P.	Independent Oil & Gas	25cQ	July 18, 27	2,700	19¾	20⅜	19	20⅜	+ ¾
13⅝	7¼	11⅛	7½	$ 3,280,340	$10	Indian Refining	.....	Dec. 15, 20	500	8	8⅛	8	8	0
12¾	8	10⅞	7¼	4,550,110	10	do ctfs.	.....	.....	100	7¾	7¾	7¾	7¾	— ¼
104	90	112	99⅞	2,296,400	100	do pfd.	.....	Dec. 15, 21	600	101	101	†99⅞	99⅞	— 2¼
24½	19⅛	32½	20½	(sh) 3,988,044	N.P.	Lago Oil & Transport	75cQ	May 1, 27	11,500	31½	31⅞	28½	30	— 1¾
19⅞	12	18⅛	11½	(sh) 1,135,662	N.P.	Louisiana Oil Refining	.....	.....	2,900	11⅞	12	11⅜	11¾	— ⅛
98	93	97	90	$ 4,000,000	$100	do pfd.	$1½Q	May 16, 27	200	90⅜	90⅝	90¼	90½	— ⅛
28⅞	16⅛	22¾	13	(sh) 330,000	N.P.	Maracaibo Oil	.....	.....	1,200	13¾	13⅝	13	13½	— ¼
63¾	49¼	58½	31	(sh) 2,308,064	N.P.	Marland Oil Co.	.....	Mar. 31, 27	22,700	33¾	33¾	32¼	33½	— ⅛
250	225	250	200	$ 45,942,800	$100	Mexican Petroleum	$3Q	July 20, 27	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	12,000,000	100	do pfd.	$2Q	July 20, 27	.....	.....	.....	.....	.....	.....
13¾	6	9¼	4½	(sh) 945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	2,500	5	5	4⅞	5	0
37	27½	39⅜	29	(sh) 1,357,800	N.P.	Mid-Continent Petroleum	75cQ	Aug. 1, 27	7,400	30¾	31	30	30¾	0
104¼	90	105	97	$ 6,718,000	$100	do pfd.	$1¾Q	June 1, 27	200	101	102¾	101	102¾	+ 1¾
2½	⅝	3¾	1⅝	24,726,130	10	Middle States	.....	July 1, 23	5,200	2⅞	2⅞	2½	2⅝	— ¼
1⅝	½	2¾	1⅛	5,074,090	...	do ctfs.	.....	.....	600	1¾	1⅞	1¾	1¾	— ⅛
2¼	1	1⅞	1	(sh) 3,500,000	N.P.	Pacific Oil	.....	.....	1,200	1¾	1¼	1¼	1¼	0
76½	56½	65⅞	53½	$ 48,307,400	$ 50	Pan American P. & T.	$1.50Q	July 20, 27	3,100	54½	54¾	53¼	53¼	— 1½
78⅝	56⅞	66⅝	53½	121,096,950	50	do B.	$1.50Q	July 20, 27	13,000	55	55½	54	54⅝	— ⅜
46	30	37⅞	19	(sh) 400,000	N.P.	Pan American Western B.	.....	Jan. 30, 27	1,200	20	20¾	20	20¾	+ ⅛
62	4½	18⅞	8	(sh) 198,770	N.P.	Panhandle P. & R.	.....	.....	1,500	9¼	10	9¼	9½	— ½
99¾	51	83¾	64	$ 2,935,200	$100	do pfd.	.....	July 2, 23	.....	.....	.....	.....	.....	.....
57⅜	40	60¼	38	(sh) 2,406,796	N.P.	Phillips Petroleum	75cQ	July 1, 27	32,400	40	41	39⅛	41	+ 1⅜
1⅞	½	1⅛	½	$ 29,622,925	$ 25	Pierce Oil Corp.	.....	.....	2,600	¾	¾	⅝	⅝	— ⅛
27⅛	11⅛	24	13½	15,000,000	100	do pfd.	.....	Feb. 1, 22	900	20	20½	19½	19½	— 1
7	2¼	5½	2½	(sh) 2,500,000	N.P.	Pierce Petroleum	.....	.....	125,500	4¾	5⅛	4¼	4¾	— ½
20¾	11	33⅞	16¾	$ 11,467,850	$50	Producers & Refiners	.....	Sept. 15, 23	5,800	24⅜	24¼	23½	24	0
41¾	30⅜	50	36⅞	2,845,350	50	do pfd.	.....	May 1, 25	230	40	40⅜	39⅜	39¾	— 1
31	25¼	33½	25⅝	75,929,250	25	Pure Oil Co.	‡37½cQ	June 1, 27	15,200	26¼	26⅞	26⅛	26⅜	+ ⅛
112¾	106	114	111⅜	13,000,000	100	do 8% pfd.	$2Q	July 1, 27	100	112¾	112¾	112¾	112¾	+ ¼
57⅜	47⅜	58	47½	(sh) 628,559	13.40	Royal Dutch, N. Y. shares	$1.80	Aug. 2, 27	3,100	45⅝	45⅝	44¼	45	— 1
40⅝	40½	47⅛	42⅛	(sh) 83,152	F2	Shell Transport & T	$1.45	July 22, 27	800	42¼	43½	†42⅛	43½	— 1⅛
31	24	31¾	25	(sh) 10,000,000	N.P.	Shell Union Oil	35cQ	June 30, 27	9,200	27⅛	27⅜	26⅞	26⅞	— ⅛
114	103	111	107½	$ 18,350,400	$100	do pfd.	$1½Q	May 16, 27	.....	.....	.....	.....	.....	.....
28⅝	15⅛	22¾	14¼	7,208,080	10	Simms Petroleum	.....	Apr. 1, 27	8,800	14⅞	14⅞	14½	14½	0
24⅞	16¾	22⅜	16	(sh) 4,501.224	N.P.	Sinclair Consolidated	.....	May 31, 24	15,100	16⅜	16½	16⅛	16½	+ ⅛
99½	90	103½	97	$ 17,210,000	$100	do pfd.	$2Q	May 16, 27	200	98¼	98½	98¼	98½	+ ¼
37½	26⅝	37⅜	24⅛	27,398,500	25	Skelly Oil Co.	50cQ	June 15, 27	4,500	26⅝	27⅛	26	26¼	— ⅛
63⅜	52⅜	60¾	50⅜	(sh) 13,016,434	N.P.	S. O. California	‡62½cQ	June 15, 27	12,700	53⅝	54	53½	53¾	— ¼
46⅜	37⅜	41⅜	35⅛	$ 604,484,600	$25	S. O. New Jersey	‡25cQ	June 15, 27	39,600	37⅜	37½	36⅞	37¼	0
33¼	32½	34⅛	29¾	421,498,275	25	S. O. New York	40cQ	June 15, 27	28,800	30⅞	31¼	30⅛	30⅝	— ⅛
41⅝	30¼	34⅞	30	(sh) 1,171,474	N.P.	Sun Oil	25cQ	June 15, 27	1,700	33¼	33	33¾	31⅞	— 1⅜
.....	.....	.....	.....	.....	.....	$6,000,000 $100 do. pfd.	.....	.....	.....	.....	.....	.....	.....	.....
5¼	1	6½	3¾	(sh) 1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	1,000	4¼	4¼	4⅛	4¼	+ ⅛
57¾	53⅛	58	45	$ 179,752,525	25	The Texas Corp.	75cQ	July 1, 27	12,300	48¾	48½	47½	48	— ¼
19½	12	18⅞	12	8,380,340	10	Texas Pacific Coal & Oil	.....	Mar. 31, 27	5,200	14¾	14¾	14	14½	— ¼
39¼	37	29¼	22½	(sh) 2,157,991	N.P.	Tide Water Oil Co.	20cQ	June 30, 27	4,300	20	24	19	24	+ 2
103	87¼	89¾	86	$ 20,705,100	$100	do 5% pfd.	$1.25Q	May 16, 27	700	87	87½	186	86½	0
....	....	19⅛	15½	(sh) 4,791,410	N.P.	Tide Water Associated	15cQ	Aug. 1, 27	21,600	16½	18⅜	16½	18	+ 1½
....	....	90¾	87	$ 76,347,100	$100	do pfd. new	$1.50Q	July 1, 27	1,000	87½	88	87	87	0
5½	3	9¾	3¾	(sh) 3,742,029	N.P.	Transcontinental Oil	.....	.....	67,100	7¾	8⅜	7½	8⅜	+ ⅛
58⅜	37¼	56½	39⅜	$ 40,741,725	$ 25	Union Oil of California	50cQ	May 10, 27	1,400	42¼	42⅜	42⅛	42⅛	+ ⅛
120⅜	84¼	116½	94	30,734,000	100	Union Tank Car Co.	$1¼Q	June 1, 27	600	114	115	114	114	— ½
....	....	28½	25½	(sh) 239,860	N.P.	Warner Quinlan	50cQ	July 2, 27	400	26	26	26	26	0
29¾	25⅛	27½	22	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	July 20, 27	600	22½	22¾	22½	22¾	— ⅛

*New High †New Low xEx-Dividend ‡Also extras Total Sales 622,130

Cleveland Stock Market

July 29

	Par Value	Bid	Asked	Last Sale
Canfield Oil Co.	100	....	....	110
do pfd.	100	100	....	100
Fred G. Clark Co.	10	....	3	3¼
National Refining Co.	25	34	....	34¼
do pfd.	100	130	....	130
Paragon Refining Co.	25	9	10	9
do pfd.	100	83	86	85

x Ex dividend

New York Curb Bonds

Week Ended July 29

	High	Low	Last	Ch'ge
Beacon Oil 6s '36	99	99	99	0
Cities Serv. 5s '66	88⅜	88	88	— ¾
Cities Serv. 6s '66	100¼	100	100	— ¼
Cities Serv. G. 5½s '42	96¼	96¼	96¼	0
Empire Oil 5½s '42	96	96	96	0
Galena S. O. 7s '30	90¼	90⅛	90⅛	— ⅜
General Pet. 6s '28	101⅛	100¾	100⅞	0
Gulf Oil 5s '37	99⅞	99¾	99¾	— ⅛
Gulf Oil 5½s '28	100¾	100⅜	100¾	+ ⅜
Indepen. Oil 6s '39	98⅞	98	98	— ⅛
Phillips Pet. 5½s '39	95¼	95	95¼	0
Pure Oil 5½s	98½	98⅜	98⅜	0
Richfield Oil 6s wi '41	92¼	92¼	92¼	— ¼
S. O. N. Y. 6½s '33	104¾	104¼	104¼	— ¼
Sun Oil 5½s '39	100¾	100	100	— ⅛
Trans. Cont. Oil 7s '30	111⅞	109½	111⅞	+1¾
United Oil Prod. 8s '31	76	75¾	75⅞	—6
Warn. Quin. 6s '42	97	95¾	96¼	+2
White Eagle 5½s '57	95¾	95	95¾	+ ¼

PITTSBURGH STOCK EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended July 29 Sales	First	High	Low	Last	Ch'ge
8½	6⅝	...	...	N.P.	Andes Petroleum	.....	.....	.....	.....	.....	.....
8½	5¾	9⅞	6¼	$ 10	Arkansas Nat. Gas.	6,155	9½	9½	8¾	9⅛	— ⅜
90½	79¾	98⅝	84	100	Columbia Gas	245	93	93½	93	93	— 1
101⅜	95	107	100	100	do pfd.	.....	.....	.....	.....	.....	.....
17	12½	15	9½	10	Devonian Oil	52	10⅛	10⅛	10	10	0
116½	112	116¾	115	100	Duquesne Lt. 7% pfd.	80	116½	116½	116	116½	0
10	5⅛	12¼	6	N.P.	Houston Gulf Gas.	100	9¾	9¾	9¾	9¾	+ ¾
46	39	46¼	37¼	$ 25	Lone Star Gas	8,000	43	45¼	43	45	+ 1¾
47⅜	33⅛	22¾	22¼	25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
47½	42	21⅜	21	....	do ctfs.	.....	.....	.....	.....	.....	.....
6¾	5	6	5	....	Ohio Oil & Gas	.....	.....	.....	.....	.....	.....
34	21	21	21	25	Oklahoma Nat. Gas.	.....	.....	.....	.....	.....	.....
21	19¼	23⅝	20¾	....	do ctfs.	60	21½	21½	21½	21½	— ⅛
5⅜	3½	3⅜	3	5	Pittsburgh Oil & Gas	400	3¼	3¼	3¼	3¼	0
10	7½	8	6	10	Salt Creek Cons.	.....	.....	.....	.....	.....	.....
27	8	26½	17	10	Tidal Osage	.....	.....	.....	.....	.....	.....
45	40	43	41	N.P.	Waverly Oil Wks. "A"	100	41	41	41	41	— 1

PITTSBURGH CURB EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended July 29 Sales	First	High	Low	Last	Ch'ge
3¾	2½	3½	2¾	$ 5	Columbia Synd.	300	3⅛	3⅛	3⅛	3⅛	+ ⅛
20	.06	.18	.18	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
22	22	....	....	10	Forest Oil	.....	.....	.....	.....	.....	.....
91½	85	94	88	25	Gulf Oil Corp.	.....	.....	.....	.....	.....	.....
79	79	105	93	100	Houston Gulf Gas pfd	.....	.....	.....	.....	.....	.....
12	7½	10¾	6¼	N.P.	Leonard Oil & Dev.	1,800	9	9½	9	9½	+ ½
1¾	1⅜	....	....	N.P.	Mountain & Gulf	.....	.....	.....	.....	.....	.....
30¼	29	32	31¼	$ 25	Oklahoma Gas	.....	.....	.....	.....	.....	.....
....	....	1.20	1.00	....	Oklahoma Eastern	.....	.....	.....	.....	.....	.....
2	.15	2.70	.75	10	Omar Oil & Gas	18,700	1.20	1.25	.95	.95	— .25c
....	....	2¼	1¾	....	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
2	1¾	2¼	2¼	5	do pfd.	.....	.....	.....	.....	.....	.....
33½	20	31	22	10	Plymouth Oil	100	22	22	†22	22	— 1½
7	3	6	5⅛	5	States Oil	.....	.....	.....	.....	.....	.....
3½	2	3⅜	1¾	1	Texon Oil & Land	580	2	2¼	2	2¼	+ ¼
25¾	8	23¾	18	10	TidalOsage(non-vtg).	.....	.....	.....	.....	.....	.....

*New high †New Low xEx-Dividend

Standard Oil Stock Traded in New York

1926 High	1926 Low	1927 High	1927 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended July 30 Sales	First	High	Low	Last	Ch'ge
21	16⅜	21⅜	17⅝	£ 4,000,000	£ 1	Anglo-American Oil	60¼c	May 31, 27	600	17⅞	17⅞	†17⅜	17⅝	— ⅜
20¼	16½	20½	17⅜	.....	£ 1	do ctfs. non-voting	.....	.....	.....	.....	.....	.....	.....	.....
2¼	.75	1¼	.75	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	.....	.....	.....	.....	.....	.....
5	2⅞	4¼	2½	$ 10,000,000	$ 10	do pfd.	.....	.....	200	3	3	3	3	+ ⅜
75	65	69	50	1,000,000	25	Borne Scrymser	‡$1S.A.	Apr. 15, 27	50	58½	58½	58½	58½	— 1
59½	42	59	45	10,000,000	50	Buckeye Pipe Line	$1Q	June 15, 27	250	56½	56½	55½	55½	— ½
82½	65	115	76½	3,000,000	25	Chesebrough Mfg.	$1Q	June 30, 27	200	109¾	110	109¾	110	+ 2½
25⅞	17½	22⅝	16¾	38,805,260	10	Continental Oil	25cQ	June 15, 27	4,500	17⅜	17¼	†16¾	17	— ⅛
137	102	137	89	3,000,000	100	Cumberland Pipe Line	$2Q	June 15, 27	.....	.....	.....	.....	.....	.....
63¾	43	58½	47	5,000,000	100	Eureka Pipe Line	$1Q	Aug. 1, 27	.....	.....	.....	.....	.....	.....
32½	9¼	13½	7½	16,000,000	100	Galena Signal Oil	.....	June 30, 25	100	7⅞	7⅞	7⅞	7⅞	+ ⅜
94½	35	59¾	35	4,000,000	100	do new pfd.	.....	June 30, 26	20	36	36	36	36	0
97½	40	60½	43½	2,000,000	100	do old pfd.	.....	June 30, 26	.....	.....	.....	.....	.....	.....
99⅝	52	62¾	54	73,117,577	25	Humble Oil & Refining	‡30cQ	July 1, 27	10,500	59¼	59¼	58	58⅜	+ ¾
144½	125¼	150	123¾	20,000,000	100	Illinois Pipe Line	$6S.A.	June 15, 27	1,000	147	148¾	145	145	— 1
39¾	32½	47	37¾	(sh) 6,491,952	N.P.	Imperial of Canada	‡25cQ	June 1, 27	1,300	44	45	44	44⅞	+ ⅝
70	54½	72½	61	$ 5,000,000	$50	Indiana Pipe Line	$1Q.	May 14, 27	100	68	68	68	68	0
35¼	28⅝	34⅞	28	(sh) 7,118,138	N.P.	International Petroleum	25c	June 15, 27	4,460	28¾	29¼	†28	28⅝	— ⅛
20⅝	12½	17	13½	$ 6,362,500	$12½	National Transit Co.	25cQ	June 15, 27	700	15¾	15¾	15½	15½	— ½
51½	27¾	37	31¼	5,000,000	100	New York Transit	.....	July 15, 26	50	33	33	33	33	0
80½	64	91	70	4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 27	.....	.....	.....	.....	.....	.....
67¾	55¾	64¼	52	60,000,000	25	Ohio Oil Co.	‡50cQ	June 15, 27	3,300	59¾	60⅛	58½	58½	— 1
24¾	15	31	12	10,000,000	25	Penn Mex. Fuel	.....	May 21, 25	900	27	27	26½	26½	— ½
60¼	48	55½	45⅝	60,000,000	25	Prairie Oil & Gas	50cQ	May 31, 27	1,300	48⅜	48⅝	47⅞	48¼	+ ¼
137½	122¼	186	132	81,000,000	100	Prairie Pipe Line	$2.50Q	July 31, 27	2,100	184	184½	180¼	180¼	— 2
220	184½	201½	180	4,000,000	100	Solar Refining	$5S.A.	June 20, 27	20	180	180	180	180	— 2
47	21	27¼	15½	5,000,000	50	Southern Pipe Line	.....	Mar. 1, 26	.....	.....	.....	.....	.....	.....
50	34½	41½	34½	20,000,000	25	South Penn Oil	50cQ	June 30, 27	1,200	37¼	37⅜	35½	35½	— 1½
57	49	77	55½	3,500,000	100	South West Pa. Pipe Lines	$1Q	July 1, 27	.....	.....	.....	.....	.....	.....
70½	60¼	74¼	64¾	228,415,463	25	S. O. Indiana	‡62½cQ	June 15, 27	73,800	69	69⅛	68⅜	68⅝	— ⅜
36½	16½	20⅛	15⅝	8,000,000	25	S. O. Kansas	.....	June 16, 24	800	16¾	17½	16⅜	17½	+ ⅛
134¾	108	122¾	111½	17,012,599	25	S. O. Kentucky	$1Q	June 30, 27	2,800	120½	122¼	120⅛	121	+ 1
51⅜	42	49½	42	4,559,850	25	S. O. Nebraska	62cQ	June 20, 27	.....	.....	.....	.....	.....	.....
672	288	86	73	14,000,000	25	S. O. Ohio	62½cQ	July 1, 27	150	76	76	75¾	75¾	+ ¼
120½	116½	122	117¼	7,000,000	100	do pfd.	$1¾Q	June 1, 27	10	119½	119½	119½	119½	— ½
23	15½	18	14½	861,466	25	Swan Finch Co.	.....	Nov. 1, 19	50	17½	17½	17½	17½	0
109¾	90¼	134⅛	95⅛	62,470,800	25	Vacuum Oil	‡50cQ	June 20, 27	15,200	131½	132	127½	129¾	— 1½

*New high †New low xEx dividend ‡Also extras.

James Hunter, Refiners Oil Co., Dayton, O., has returned from his honeymoon tour. He married Miss Twila Honfroy of Little York, O., June 30 and they went to Miami, Fla. for several weeks.

STANDARD O I L ISSUES

New 25th Edition

STANDARD OIL BOOKLET

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New York Curb Market

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Week Ended July 30 Sales	First	High	Low	Last	Change
6¾	45	2⅞	.65	$5	Amer. Con. Oilfields	15,200	80	82	75	80	0
14½	4	7½	3	N.P.	Amer. Maracaibo	800	3½	3¾	3½	3⅝	+ ⅛
8⅛	5¼	9⅛	6¾	$10	Arkansas Nat. Gas.	3,100	9¼	9¼	9	9¼	0
20⅛	14⅜	20½	15½	N.P.	Beacon Oil	.....	.....	.....	.....	.....	.....
85¼	60	27	20½	N.P.	British American	.....	.....	.....	.....	.....	.....
28⅜	9¼	28¼	14⅜	25c	Carib Syndicate (new)	8,800	20⅜	21	19½	21	+ ⅜
.....	.....	26	16½	.....	do ctfs. of deposit	.....	.....	.....	.....	.....	.....
51	37½	58¾	40¼	$20	Cities Service	10,300	45¼	45½	45¼	45½	0
92½	82⅜	92¼	87	100	do pfd.	900	87½	87½	87¼	87½	0
8⅜	7⅜	8½	7⅜	10	do pfd. B	100	8⅛	8⅛	8⅛	8⅛	0
25¼	19	29¼	22½	10	do bankers' shares	.....	.....	.....	.....	.....	.....
3½	1¾	3⅛	1¾	$1	Colombia Syndicate	43,300	3⅛	3¼	2⅛	3⅛	+ ⅛
10¼	8⅜	9½	7	10	Consolidated Royal	300	....	7¾	†7	7	— ⅝
16	10	14¾	9⅞	N.P.	Creole Syndicate	.....	.....	.....	.....	.....	.....
7⅛	1⅛	3	1	N.P.	Crown Central	300	1⅛	1⅛	1⅛	1⅛	0
8½	½	12	4¾	....	Darby Petroleum	400	....	7	6½	6½	— 1
....	....	11½	6	....	do trust ctfs.	100	6	6	†6	6	— ½
4	1¾	2½	1¼	N.P.	Derby Oil & Refining	.....	.....	.....	.....	.....	.....
19	13	16¾	10	N.P.	do pfd.	.....	.....	.....	.....	.....	.....
7½	2½	3¾	1⅝	N.P.	Gibson Oil	10,500	1⅞	1⅞	1¾	1¾	— ⅛
2	.63	1⅜	40	N.P.	Gilliland ctfs.	.....	.....	.....	.....	.....	.....
98	82	96½	86¼	$25	Gulf Oil Corp.	2,300	91	91¾	90½	91½	— ⅛
3⅛	1	2¼	1¼	N.P.	Kirby Petroleum	500	1⅜	1⅜	1⅜	1⅜	0
12¾	5¾	10⅞	6	N.P.	Leonard Oil & Dev.	13,200	....	10¼	9	10	+ ⅜
27	20	27½	22	N.P.	Lion Oil & Refg.	100	23⅞	23⅞	23⅞	23⅞	+ ⅛
46	31	46½	37	$25	Lone Star Gas	2,500	43¾	45½	43	45	+ 2
2⅜	2	2⅞	1⅛	1	Magdalena Synd.	1,200	....	1¾	1⅝	1¾	0
5½	1⅜	3	1⅜	10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
1¾	1¾	1¾	1	1	Mountain & Gulf	.....	.....	.....	.....	.....	.....
26	23	26⅞	22¾	10	Mountain Producers	2,500	24⅛	24⅛	23¾	23¾	— ⅝
6¾	5	5⅞	4⅞	5	New Bradford	1,100	4⅞	5	4⅞	5	+ ⅛
11¾	2	6¼	4	10	New England Fuel	.....	.....	.....	.....	.....	.....
17	9¼	16	9¼	1	New Mex. & Ariz.	2,200	11	11	10½	10½	— ¼
17	8	13¼	9	25	New York Oil	2,600	....	11¾	11	11	+ 1
12⅛	8¾	12⅜	11⅜	N.P.	North Cent. Texas	.....	.....	.....	.....	.....	.....
44¾	33	....	....	$25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
33	28¾	27½	21¼	....	Okla. Nat. Gas ctfs.	.....	.....	.....	.....	.....	.....
10¾	5⅛	9⅜	3⅞	N.P.	Pandem	500	....	4	†3⅞	4	— ⅛
12¼	11¾	12⅛	9¾	N.P.	Pantapec Oil	1,200	....	10	9¾	10	0
2¾	.20	.37	.25	N.P.	Peer Oil Corp.	.....	.....	.....	.....	.....	.....
22¾	12	13½	6½	$10	Pennok Oil	.....	.....	.....	.....	.....	.....
38	14⅛	24⅜	14½	25	Red Bank Oil	500	18¼	18⅝	17	18⅝	— 1⅜
30¼	12	15½	2	N.P.	Reiter-Foster	800	4½	4¾	4¼	4¼	— ⅜
27½	22	27½	15	$25	Richfield Oil	.....	.....	.....	.....	.....	.....
7½	4⅛	7	4½	N.P.	Ryan Consolidated	200	....	5½	5⅜	5⅜	— ⅛
10	7½	8	6	$10	Salt Creek Cons.	100	6½	6½	6½	6½	0
36	26⅞	32	27¼	10	Salt Creek Prod.	2,800	29½	29⅜	28⅞	28⅞	— 1
4⅜	1⅛	7	2⅛	5	Savoy Oil	700	....	2¾	2¼	2¼	— ⅛
27	7⅜	26½	17	10	Tidal Osage	3,100	....	21¾	19½	21¾	+ 1¼
25¾	7⅞	23¾	15	10	do non-voting	3,300	....	21	19⅛	20¼	+ ¾
....	....	88	63½	100	Transcontinental pfd.	300	81	83½	81	81	— 2½
5	4⅛	7⅜	4¼	5	Venezuelan Petro.	1,900	4½	5	4¼	4¾	+ ⅛
31⅛	22	32⅜	20⅜	N.P.	Wilcox Oil & Gas	100	22½	22½	22½	22½	— ½
9½	4⅜	8	5¼	$1	Woodley Petroleum	300	5¾	5¾	5¾	5¾	0

*New High †New Low xEx-Dividend

(*Continued from Page* 137)

Gulf Ports. There was an inquiry, apparently from Germany, for 30,000 barrels of translucent gas oil for late August shipment, and it is expected that a leading independent refiner will book this order. For 26-28 gravity gas oil, the price was still quoted at 3.875 cents a gallon, while 32 plus dark gas oil was available at 3.75 cents.

Lubricating Oils—New York

French buyers were a little more active in the markets for Pennsylvania lubricating oils last week, but are still confining their purchases to lots of a few hundred barrels each. Prices have been steady. Interest in the cylinder oils was keener than during the previous week, and the price for Pennsylvania 600 s.r. unfiltered in barrels, New York, was 16.5 cents a gallon. Pale and red engine oils had better domestic demand, but foreign interest was negligible.

Lubricating Oils—Gulf Ports

Although confirmation was lacking, it was reported that a cargo of 30,000 barrels of assorted lubricating oils had been sold for August-September shipment to the continent by a leading refiner. Interest in the zero cold test oils was more active as the Continentals are apparently looking around for their fall supplies. Prices held steady, fluctuations being within a very narrow range. Domestic demand has been holding up fairly well, and refiners show more confidence than had been expected.

Petrolatums

The movement in snow white petrolatum was spasmodic and light last week, but nevertheless no price changes were recorded. Lily white marked time but there was a more active inquiry for dark green and amber. Medicinal oils were easy and business was slow, but the inquiry was better and indications point towards a larger movement shortly.

(*Continued from Page* 138)

dirty bottoms about 10 cents higher. Rates on fuel oil are slightly higher than for crude, due to the fact that a barrel of fuel is slightly heavier than refinable crude. Rates are quoted on tonnage rather than barrels.

* * *

LOS ANGELES, July 30.—To absorb the increase of one cent tax against gasoline, all oil companies effective July 29 advanced gasoline prices in California one cent. This gives the state a tax of 3 cents a gallon. Los Angeles service station is now 20.5 cents, while the price at San Francisco is half-cent higher. No changes were announced in other products.

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